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**Norman Simmonds on new crops**  
**Profile of Sir Peter Swinnerton-Dyer**  
**Sweden's permanent reform**  
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Inevitably, those cuts have precluded some decisions which belong in NAB planning exercise which will determine the distribution of the vast majority of places in the public sector. The withdrawal of teacher education from the City of Liverpool College of Higher Education, for example, effectively dictated its future as an institution of higher education.

These days of integrated courses and joint teaching, there is often no real sawing a line between training and other activities for planning purposes. Although the Education is directly the responsibility of the Secretary of State for Education, who already receives advice from the Advisory Committee on the Supply of Teachers, there is a small room for a NARS officer in the detailed distribution of places.

Such an arrangement would be in

of the week that he breaks a record for marking a cent examination script.

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William Doyle on  
Norman Hampson, 14

**PULLING STRINGS . . .** Cedric Sandford, professor of political economy at Bath University and Mike Goodwin, a research worker at the Centre for Fiscal Studies put their monetary expertise to work last weekend and went banking to raise funds for a new cancer treatment centre at Bath's Royal United Hospital. Violinist Professor Sandford and guitarist Mr Goodwin, though academic gowns and mortar board would add to their appeal.

He said: "The British government has signalled very clearly some shift in its policy towards the Commonwealth."

demand for higher education likely to continue to outstrip the supply of places, the time was right for a coordinated programme. The committee turned away from its previous proposal of establishing centres of excellence in

They also proposed the introduction of tax incentives to encourage corporate

determine the distribution of the vast majority of places in the public sector. The withdrawal of teacher education from the City of Liverpool College of Higher Education, for example, effectively dictated its future as an institution.

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**EXAMINATION SCRIPT**

a Commonwealth programme, approved in principle at their last meeting in Melbourne. It would build on existing initiatives, such

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continued on page



## AUT opposes cash move

Edinburgh University's Association of Teachers has attacked a confidential document revealed in the THES last week suggesting methods of fund raising to support academic innovation.

Dr Adrian Graves, secretary of the local branch, said the association did not oppose raising money from outside sources.

But the AUT is very concerned about any university proceedings which had academic ramifications taking place in secret. This committee has set academic objectives for the university without there being wide consultation and debate on these objectives.

The body set up to discuss the creation of academic posts was the senate, said Dr Graves, but the university court, which has already approved the report in principle, had "by stealth" denied the senate a chance to debate matters of the greatest academic concern.

Dr Graves said the AUT was also worried by references in the document to raising money from commercial interests. "One of the great values of British higher education is that it is independent of commercial concerns, and we have to guard against this being eroded."

But a university spokesman said: "No one is proposing a huge injection of commercial finance and influence, but augmenting the university income by two or three per cent. The university is hardly likely to concede undue commercial influence on this basis any more than it concedes undue governmental influence on the basis of a much larger cash injection."

There was no question of any resources being passed by stealth, he added.

## Legal advice

Students at Goldsmiths' College, London, are taking legal advice after learning that Dr Richard Hoggart, the college warden, had stopped payments of the student union grant allocation because of an alleged rent strike.

Mr. Saba, Freese, the student union president, said that a £10,000 cheque for club and society activities had been stopped without proper warning and the union now faced severe financial difficulties.

The move is apparently in retaliation for outstanding hall fees, which Dr Hoggart estimated to total £26,000. But Mr. Freese denied that any students were deliberately withholding their rent and that the union had run any organized rent strike. Dr Hoggart refused to discuss what he says is a purely internal matter.

## Jobs shareout

Sir Keith Joseph, Secretary of State for Education and Science, is to take over personal responsibility for information technology and educational research as well as the 16-19 age group, it was announced this week. He will oversee relations with the Manpower Services Commission, retaining a partnership with his former political advisor, Mr. David Young, director of the MSO.

The move is the result of sharing out the former responsibilities of Mr. William Shelton, who was not replaced when he lost his place in the Government last week. Mr. Peter Brooke takes on adult education and science as well as higher education, while Mr. Robert Dunn is responsible for teacher training in addition to schools.

## Initial welcome

Kable College has given an initial welcome to the Dover committee's proposals to reform the Oxford University undergraduate entrance process, including the abolition of a seventh term written examination.

It was Kable which really forced the university into setting up a formal admissions review committee last December when the college threatened to open a third of its places to direct entry students.

## Career prospect

Improving management careers for women in the hotel and catering industry is an Ulster Polytechnic project awarded £160,000 by the Manpower Services Commission.

Much of the money will go on a new course starting this September.

## New fund for industry links

by John Turney  
Science Correspondent

The Department of Trade and Industry is likely to approve a new fund for initiatives designed to improve academic-industrial technology collaboration before the parliamentary recess in July.

The terms of the new fund, which will back proposals for schemes like science parks and industrial liaison appointments, are very similar to plans expected to come from an Advisory Council for Applied Research and Development report on the same subject, expected to be published next week.

The Government is so enthusiastic about exploiting academic expertise, that the former industry secretary Mr. Patrick Jenkin asked officials to draw up plans for the fund even though the Cabinet Office had already asked the ACARD to set up a working group on links between industry and higher education.

Mr Jenkin said after this year's

budget that he wanted the British Technology Group to play a more active role in commercial development of academic ideas, and the department wanted to encourage science parks and similar ventures.

Since then DoI civil servants have consulted more than 30 universities and polytechnics to find the best models for successful work with industry. Their report is now being finalized for Mr Jenkin's successor in the reconstituted Department of Trade and Industry, Mr. Cecil Parkinson. Like the ACARD group, the DoI investigation concludes that there is no one best way for all higher education institutions to exploit industrial opportunities. Both report suggest that one solution for Government help is a fund open to applications from universities or polytechnics which have specific proposals.

The Department of Trade and Industry has not yet put a value on the fund, but the ACARD group suggests that £5m would be enough to start off

a flexible scheme for backing such initiatives.

The proposals are also likely to have the backing of Mr. Kenneth Baker, who remains as Minister for Information Technology in the new department and is keen to see money found for science parks in particular.

The new fund may go ahead before final clarification of the British Technology Group's role. The DTI still intends to enhance the ability of the former National Research Development Corporation to promote commercial use of academic inventions.

But the union of NRDC with the National Enterprise Board in the BTG has still to be formalized, and the DTI and the Treasury are still discussing proposals to remove the group's automatic right to first refusal of inventions based on publicly-funded research.

The group's final status will also depend to some extent on the ACARD report, which is expected to produce a neutral verdict on the BTG's record.

## 'Blunder'angers colleges

by Patricia Santinelli

Teacher training colleges are being hit by the Department of Education and Science's failure to inform them that plans to control the study of "second" subjects have been abandoned.

The first news of a DES change of policy reached institutions when they received questionnaires from the Advisory Committee on the Study and Education of Teachers asking them to list all their main subjects and second subjects for next year, with limitations on the latter category.

Since then the department has confirmed privately to a number of institutions that they are allowed "second subjects" which are not already in their main allocated list.

Normally institutions would have welcomed this about face. But at stage many have already trained both staff and resources - which can be recalled - in order to adhere to instructions circulated last autumn.

This advised institutions that they would not be allowed to offer a subsidiary subject which was already on their main subject list. In DES aimed to prevent progress teachers from teaching a subject which they had not been adequately prepared.

In fact, the instruction meant institutions which had been allowed only four subjects, say maths, English, physical education and history, were unable to provide students with additional training corresponding to their previous degree or studies - a fact the DES insists on.

It is believed that the department's failure to inform institutions of its request to the ACSET to collect information is because of its embarrassment at having to admit that control of "second subject" is virtually impossible. Many institutions had warned the department that this would be impossible to achieve uniformly and would not work.

In April the DES withdrew a circular which showed a partial reversal of previous policy. This told institutions that although DES's emphasis on main subjects was not to be relaxed, it had now become clear that short-term secondary schools meant that teachers would have to take classes in second subsidiary subjects.

The court case involving the threatened Catholic De La Salle College in Manchester, due to be heard this week, has been postponed until next month.

The Department of Education and Science postponed the case, which is fast turning into a mini-saga, because of prior commitments which will spill over into this week.

The case is being brought against the DES by the Catholic Education Council which opposes the closure of De La Salle. It is on the grounds that if it were to terminate the historic Catholic status of teacher training places agreed with the end of the century.

The postponement has given the college's action campaign hope that the DES is conducting a serious re-evaluation of its figures. Mr. William Walpole, the former under-secretary for higher education, had already admitted that these were wrong.

## Overseas fees

continued from front page

rate contributions, concessions for students in foreign travel and greater international coordination to ease the impact of policy changes. However, they also recognized the need for government policies on foreign students to leave some flexibility to other agencies to become involved.

The first meeting of EEC member states, launched a work programme aimed at stimulating student mobility, as well as encouraging changes of staff, researchers and lecturers within Europe.

Professor Carl Wendel, the EEC chairman of the liaison committee of universities' conferences, said that universities in the EEC were facing very severe problems since the common market was established. Close and effective cooperation was required to solve them.

## Teaching watchdog proposed

by Patricia Santinelli

Proposals for a single national accreditation body for education courses to be directly responsible to the Secretary of State for Education were being debated today by a committee of the Government's Advisory Body for Teacher Training.

The proposals which are to go to the main committee of the Advisory Committee for the Supply and Education of Teachers next month have the support of its chairman, Sir Clifford Butler. If approved it will mark a further step in the control Sir Keith Joseph is intent on gaining over teacher training courses.

According to a paper prepared for the committee, a single body is necessary rather than the several local or regional professional committees originally considered, to ensure that the new criteria spelt out in the White Paper *Teaching Quality* is applied consistently across all training courses in universities and colleges.

It does not however rule out the continuation or setting up of new local and regional professional committees, but points out that their functions do not require a formal constitution approved by the Secretary of State for Education.

But the paper says that a single body would be consistent with a clear distinction between professional approval and academic validation and would be similar to accreditation bodies for other professions except that it would be advisory to the Secretary of State.

The plan is for the body to be made up of independent persons - although there is no mention as to whom would appoint them - with experience of schools and teacher training because this would allow the body to be manageable.

It would also be independent of the validating bodies, the department, Her Majesty's Inspectorate, the University Grants Committee and the National



Sir Patrick Nairne, the new chancellor of Essex University, on a visit to the campus to meet staff and students, watched by Professor Barrie Chaplin, of the Wolfson Centre for the Electronic Cancellation of Noise and Vibration.

Sir Patrick will be installed on July 13, as the university's chancellor. Lord Butler, the first, served from 1964 until his death in March last year.

His visit included a meeting with students' union officers and senior administrators, as well as a tour of several departments.

## CVCP appoints new secretary general

Mr Brian Taylor, executive secretary of the Committee of Vice Chancellors and Principals, has been appointed secretary general, to succeed Mr Geoffrey Caston in October.

Mr Taylor is a graduate of the London School of Economics, where he began his career in university administration as personal assistant to the principal at London. He became executive secretary of the CVCP in 1973. He has close links with universities in Europe and the Commonwealth.

## Hull gets go-ahead

The Visitor of Hull University has ruled that the university is empowered to levy an amenities fee, and that it has lawfully exercised that power.

The university had introduced an amenities fee of £21 a year to contribute towards the careers service, the sports centre and health and counselling services. Last year students objected and the fee was suspended. Following the ruling it has been reintroduced.

## Postgraduate rise

Postgraduate student grants are to go up by 4 per cent. Grants for London students increase from £2,880 to £2,995, for students outside London from £2,335 to £2,430, and students living at home get an increase from £1,705 to £1,775.

## Entry required

The *Compendium of University Entrance Requirements for First Degree Courses* 1983, is published this week by the Committee of Vice Chancellors and Principals. It details all general and course requirements for university entrance plus a description of institutions. "Thinking about University" gives advice on subjects to choose at school. Both are available from Lund Humphries, Country Press, Drummond Road, Bradford BD9 8DN, price £7.50.

## Study shows computing 'errors'

by Felicity Jones

A lack of clarity about the needs and wants of students in adult classes in computing has been highlighted by a study in the University of Leeds department of adult education.

The Leeds research and development study of local authority provision for adults with an interest in personal computing focused on introductory computing evening classes of which there were 11 listed in Leeds for 1981 and 22 in 1982.

The occupational and education background of the students differed widely but the survey showed that administrators are showing a growing interest in the area and the implications of computer technology which might suggest a need for the provision of courses for them.

As was to be expected, there was a rise in both the number of actual computer owners and potential purchasers over the two year survey period. In 1981, 16 per cent were computer owners with a total of seven different types of computer in operation while by 1982 ownership was up to 30 per cent with 12 different types of machine.

The percentage of non-owners who were considering purchase has also risen, except among teachers who probably have greater access to machines during school time.

The most striking result of the survey, carried out by research student David Banks, who has written a report for the latest issue of the National Institute of Adult Education's journal *Adult Education*, however, is that the types of students are fluid and vary and lack clarity about what they expect from such courses.

It is suggested that one answer may be to treat introductory computer classes as places where students can become acquainted with a whole range of issues so that they can then focus their attention later on particular relevant areas of interest to them.

Mr Banks thinks it may be too simple a matter for the adult education system to provide large numbers of introductory computing classes, concentrating on programming in BASIC, which may do a disservice to the students since it does not meet the wants and needs of those students.

## LSE may boost Jewish studies

for five years. The LSE however, prefers to start with a lectureship that will add a new dimension to many existing academic courses.

University College, London, is currently the only institution to offer BA degrees in Hebrew literature and Jewish history, although Oxford University offers an MPhil, Warwick University offers a Jewish history option, and Cambridge University offers Hebrew literature.

Mr Robin Spiro, head of the Spiro Institute for the study of Jewish history and culture in London, said it would be very important and natural progression to base a new lectureship, at the LSE.

## Labour vote to take back control of poly

by Karen Gold

Liverpool's education committee has voted to take control of the polytechnic back from the governors, to whom it was delegated last year as the first step in an expansionary plan for advanced further education in the city.

Power was delegated to the governors last March after the hung city council failed to agree on a policy for the polytechnic. The decision by the newly-elected Labour majority will go to the full meeting of the city council next week.

If agreed, it will mean that all major decisions by the governors will have to be ratified by the education committee and city council. Achieving that control is one of three aims of the new administration going for approval to the council meeting.

The second is to replace the eight political governors on the polytechnic's 36-strong governing body, since they reflect the hung council, with eight members from the Labour group. The new governing body is likely to meet early next month.

The decision to fill all eight places was "to try to give some direction and leadership to the polytechnic" according to Liverpool's education chairman Councillor Dominic Brody. That is also

the aim of the third resolution. According to Mr Brody, the motion requests the governing body "to make efforts to reduce the deficit in advanced further education, but not to reduce the number of jobs, close courses or introduce any private contractors into the authority".

The education committee is meeting every week to formulate a plan for the polytechnic, which will concentrate on increasing full-time student numbers and courses to improve cost-effectiveness, Mr Brody said.

Those discussions would become an academic plan, if the polytechnic did not produce one itself by the end of the summer. "The principle we are putting forward is that we will run courses where there is proven student demand," he said.

"There is proved demand in most of the courses at the polytechnic: most are two or three times oversubscribed. We have got to investigate what is possible and practical, but there is demand in Liverpool for expansion by at least 50 per cent."

"The principle we are putting forward is courses to take account of the need of Liverpool and Merseyside: we won't just put more science-based courses on, but will look at courses on their merits."

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## Merger grant sparks row

by Ngalo Crecquer

Royal Holloway College, which is merging with Bedford on the RHC site, has complained that Bedford has been given a much bigger grant by the court of London University.

Members of the RHC academic board feel that, as the host institution in the merger, their costs are greater and this should be recognized by the court, or there should at least be parity of treatment.

In the recurrent grant allocation, RHC has been given £4,264,000 a 2.3 per cent increase on the 1982-83 figures. Bedford has been given £1,867,000, a 4.3 per cent increase. Further, in the research allocation Bedford's has gone up by £37,716 and RHC's has gone down by £21,345.

Both colleges have told court that the merger has impeded their attempts to attract research support. Court has said: "The court has received representation from Bedford and RHC that preoccupations of their academic staff with the merger has limited their ability to attract research support."

"The court is still considering these representations, albeit sympathetically and may provide one or both of the colleges with temporary compensatory grants from their restructuring funds but it cannot see its way to excluding the two institutions."

Dr Ray Miller, the RHC principal has taken up the case with Mr Hamish Stewart, the university principal. Dr Miller said: "The court allocation is one of these delicate matters so it is very difficult to tell whether a particular allocation is fair or not."

"It is a fact that RHC got a rather smaller percentage increase in pound terms than most of the other colleges. It is something we are discussing with court, whether there has been a mistake."

## Engineering body overhauls support

by Jon Turney  
Science Correspondent

The Science and Engineering Research Council is conducting a major review of its support for engineering research. The Needs of Engineering Working Party, which will report to the council's engineering board early next year, will consider whether the requirements of engineering differ from those of science.

Engineering has accounted for a growing share of the council's budget since the former Science Research Council was renamed to incorporate engineering in its title in 1980. The new working group is partly a response to criticisms, notably from the engineering professors' conference, that money for engineering research tends to go to projects nearer to straight science than engineering development.

The engineering professors argued strongly to this year's House of Lords Select Committee investigating engineering research and development that engineering should move from the SERC to a new Engineering Research and Development Council.

Although it rejected this proposal, the Lords committee supported the view that the SERC should spend more money on engineering, especially on development. The engineering professors, who are represented on the new working group, will now be able to re-

new their pressure for recognition that "engineers are not clones of scientists", as one senior member said this week.

Mr Dermot Down, chairman of the SERC engineering board, said the new group would examine the role of engineering research and postgraduate training in the universities, and what changes were needed in the SERC support to meet the special needs of engineering professors in this process might bring them to revise their criticisms of the council.

Professor Geoffrey Sims, vice chancellor of Sheffield University and chairman of the SERC working party, said there was still a basic question of

exactly how the needs of engineering differed from science. The group would "try to identify areas where engineering research and development is not being supported adequately by existing machinery, and try and see where there are areas where the SERC could be playing a different part."

He expected that responses to the group's call for evidence would include comments on projects with too little support for design studies and on the development side. "Personally, I think more could have been done in these areas," he said, and the group's report would try and offer clear directions on how this could be done in future.

A revised "retrenchment plan" involving bids from faculties for the posts to be filled and proposing a major planning review in 1985, was endorsed last week by the university congregation, the dons' parliament.

Oxford has also just set up a new appeals and income generation committee under the chairmanship of Mr Christopher Ball, warden of Keble College, to identify fund-raising projects and priorities.

The revival in university finances comes from three sources: a recovery in overseas students fees income since 1981 over an expected £12m deficit last year; a £473,000 increase in the recurrent grant as Government cash-limits were relaxed; and another grant increase expected in 1983/84, partly because of 80 extra science student places allocated to Oxford.

The general board has already told spending departments to expect no further cuts in either 1983/84 or 1984/85, although it is remaining cautious about completely abandoning its 1981 retrenchment plan. This required an eight per cent budget cut by 1984-85; so far a 2 per cent was cut in 1981/82, and two and a half per cent in 1982/83.

But the board has now given faculties until the end of term to submit bids, in order of priority, for the frozen posts which should now be refilled. It hopes to begin the process early next term, and has set aside some special funds for the purpose.

The board has also made it clear that

## Report slams ethnic training lack

by Patricia Santinelli

No courses exist for graduates or undergraduates wishing to train as teachers in ethnic minority languages, according to an in-depth report prepared for the Swann Committee.

The report based on a survey of 100 teacher training institutions was produced by Professor Maurice Craft and Dr Madeleine Atkins of the School of Education of Nottingham University.

"Nowhere in England and Wales can a graduate in ethnic minority languages such as Turkish, Greek, Chinese, Arabic, Portuguese or any Asian language obtain an appropriate training for teaching. And only a tiny minority of PGCE courses offer the opportunity of studying a few modern languages with no previous knowledge," the report says.

The report adds that the BEEd situation is even weaker and is bound to deteriorate as the degree becomes predominantly primary teaching qualification and the outlook is therefore unpromising.

"Very little modern language work is taking place and 75 per cent of all students are studying French as an academic subject, with a small number studying Welsh and a sprinkling doing German," the report points out.

However, the report emphasizes that although almost all institutions had access to languages centres offering self instruction facilities or other arrangements for the acquisition or improvement of community or modern languages, in most cases these offered modern European languages only and only three provided opportunities in Asian languages.

A further finding was that in terms of relevant language provision across the curriculum, university departments of education were uniformly poorer, polytechnics uniformly better and colleges between the two.

In fact an additional survey of undergraduate courses in modern and community languages in both universities and public sector institutions shows that French and German predominate with between only 10 and 19 institutions in both sectors offering some ethnic minority languages.

The authors recommend the setting up by the Department of Education and Science of a small national working party to develop a coordinated policy in this field. In turn this body should designate several specialist centres as a matter of the highest priority. They survey indicated that only about eight institutions had sufficient expertise to allow for immediate further development.

The report also urges that provision in ethnic minority languages be offered some protection in the forthcoming National Advisory Body review of higher education in the public sector.

It also wants the DES and the University Grants Committee to consider a somewhat extended quota for PGCE modern language specialists because of the emphasis in secondary training at this level. It suggests this could be done by designating "community languages" as a new category.

Moreover, it recommends that those BEEd courses in institutions already active in this field should be permitted to develop secondary programmes in community languages.

## Oxford to refill 50 vacant posts

by Paul Flather

Oxford University is planning to refill between 50 and 60 academic posts - equivalent to about the current number of "suspended posts" - because of recent improvements in its financial outlook.

A revised "retrenchment plan" involving bids from faculties for the posts to be filled and proposing a major planning review in 1985, was endorsed last week by the university congregation, the dons' parliament.

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## New minister tackles old tasks

by Olga Wojtas  
Scottish Correspondent

The new Scottish Office minister for education and industry, Mr Allan Stewart, will enjoy a very brief settling-in period before tackling a number of higher educational issues bequeathed by the former Scottish education minister, Mr Alex Fletcher.

A decision is urgently needed on next session's intake to community education courses. The Scottish Education Department has recommended that the number of students should be axed from 190 to 120. However, the principals of the Scottish colleges of education have criticized the proposals, claiming that there is a considerable need for community education graduates, and that they are successful in finding jobs.

The governors of Paisley College are seeking a meeting as soon as possible with Mr Stewart to ask him to suspend the decision to axe the college's social science and applied social studies degree until there has been a national review of the subjects.

If the decision is to be rescinded, it must be done quickly since the SED has already told the college to slash next session's intake from 140 to 70.

The UGC congratulated Oxford on the "impressive" development of the external studies department and the achievements in science research where it was now prominent in areas such as ceramics and robotics. On the arts side it called for more inter-university collaboration, and recognized some subjects were vulnerable. It believed it was better to "do fewer things well than to spread the jam too thinly".

The UGC was concerned about charges to students for inter-library loans, limited student counselling, the need for more collaboration between colleges in the freezing of posts and for better public relations to improve the university's image among local people.

The UGC made clear it would be in mind Oxford's need for capital funds to repair buildings, following the extensive building programme of the 1960s, and adjust its grant allocation to account for the international role of institutions like the Ashmolean and Pitt Rivers museums, and the Bodleian Library.



Mr Stewart: down to work

and suspended the appointment of a new head of the social studies department.

The minister must also make a ruling on the individual intakes to the seven education colleges for next session.

Mr Stewart will be lobbied on a number of other issues by various factions, particularly on the implementation of the Scottish Tertiary

Council report. It is likely that the minister will favour the majority report, recommending that advanced further education should be centrally run while non advanced further education is run by the local authorities, but there will be strong pressure on him to back the minority report, proposing that all tertiary education should be run by the regions.

A working party set up by the secretary of state for Scotland will produce guidelines by the end of this month for the introduction of a primary degree, giving Scotland an all graduate teaching profession, and it will be up to Mr Stewart to decide whether to implement their proposals.

The Scottish National Union of Students is to urge Mr Stewart to reject any plans to implement a flat rate of travel awards, which it claims would cut the grants of more than 11,000 Scottish students.

And Mr Stewart will also have to consider the proposal by Aberdeen university court that a committee be set up to examine the feasibility of a merger between the university, Robert Gordon's Institute of Technology, and Aberdeen College of Education.

## More public school-leavers head for university

The majority of pupils leaving public schools in 1982 opted for higher education courses with a decreasing number going straight into employment, according to a survey of 200 schools published this week.

The Independent Schools Careers Organization survey published in the *ISCO Summer Bulletin* shows that out of 2,400 girls 85 per cent were going on to university and other degree and full time courses and only 4 per cent were going straight to work.

For the boys the proportion was slightly lower. Out of 8,600 75 per cent opted for university and other degree and full time courses and 11.4 per cent went straight into employment.

Among the girls, there was a slight increase in those taking other full time courses such as higher diplomas and a minor decrease in the number going to university.

Languages, science (particularly biology), secretarial studies, economics and business studies attracted the largest number of girls with proportions ranging from 8 to 5 per cent. The lowest categories were engineering, maths, agriculture, accountancy, banking and classics with proportions ranging from 1.7 to 1 per cent.

The proportion of boys going to university fell very slightly from 54.5 per cent in 1981 to 52.2 per cent in 1982, but there was a slight increase in those taking other degree and full time courses, mainly at polytechnics.

Engineering proved to be the most popular category with just under 13 per cent opting for courses in this field. The second most popular choices were for economics, business studies attracting nearly 10 per cent and science 7.52 per cent.

The survey also had some surprises with art, commercial art, industrial design and photography.

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Sir Edward Parkes, chairman of the University Grants Committee and vice-chancellor of Leeds University, poses beside a portrait of himself unveiled this week at the City University, where he was vice-chancellor from 1974-78. The painting is by Michael Nonkes.

## APT warn on research cash

Allocating research money to polytechnics and colleges from the advanced further education pool would be damaging and dangerous, according to the Association of Polytechnic Teachers.

In its response to the National Advisory discussion document suggesting such an arrangement, the APT says public sector higher education needs adequate funding for scholarship and research on a par with universities and administered through a realistic unit of resource.

The NAB document based its arguments on an unrealistic assessment of research as currently organised in both universities and the public sector, and failed to mention scholarship at all, it says.

All types of research defines in the NAB document - research, up-dating and consultancy - as well as scholarship, are interdependent says the APT, and without a basis of scholarship among all staff and resources for it, the public sector cannot compete with universities for external funding and good postgraduate students, nor sustain its standard of teaching.

The APT compliments NAB on recognizing the function of research in the public sector in maintaining comparable standards with universities. But it says that if part of the pool is allocated to research rather than scholarship, the effect will be to encourage staff away from teaching, and to create two classes of lecturer: some concentrating on teaching and others on research.

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## Women's studies pack is result of joint venture

A cooperative venture between the National Extension College and the Workers' Educational Association, with the financial backing of the Equal Opportunities Commission, has produced a resource pack for tutors in women's studies.

The initiative for the pack came from the Berkshire, Buckinghamshire and Oxfordshire district of the WEA. Part-time tutors and volunteers decided to pool their experience and share their teaching resources and reading lists for general use by other would-be tutors around the country.

The editor of the resource pack, journalist Angela Spindler-Brown said that the material included was deliberately wide-ranging so that students in individual women's studies classes could choose what they wanted to study.

The resource pack is made up of seven individual clearly laid out sections on different topics such as women and work, education and child-bearing and child rearing. Each section carries four syllabuses which have actually been used by tutors and a list of useful addresses, suggested reading and discussion materials.

Word diagrams are used in each section to demonstrate visually the sorts of issues and problems which can be covered under each topic. The final section of the pack includes a practical guide to setting up a creche.

The number of women's studies courses have certainly been increasing in recent years and the wide variation in content is reflected in this resource

pack, for the WEA, which failed to agree to appoint a women's officer at its recent bi-annual conference, the cooperation with the NEC over the publication of this pack is seen as a major initiative in the growth of involvement in women's studies.

A member of the WEA's women's education advisory committee Anne Dale explained that the strength of the resource pack was that it drew on grassroots experience and did not attempt to band down the tablets of commandments from on high.

"Lots of women fall into teaching by accident and after a few meetings of these local tutors it became apparent that we could make use of our experience. It is really a communication exercise," she said.

The material is broad enough to be used by even the most conservative women's studies group because they can decide for themselves, by picking and choosing from our material, what they want to study. Whether we like it or not, many women are frightened and mistrustful of feminism."

The National Extension College has published the resource pack. The NEC runs correspondence courses and produces resource materials and thinks it is important to cooperate with other agencies rather than get into competition in areas like this.

Copies of Women's Studies are available price £3.50 from the publications department of the National Extension College, 18 Brooklands Avenue, Cambridge CB2 2NH.

## Counting on each other

Polytechnic lecturers have founded their own society of statisticians to examine common issues including a deteriorating student staff ratio, the impact of information technology and new software advances in their discipline.

An inaugural meeting at North London Polytechnic last week was attended by statistics lecturers from 27 polytechnics, although representatives from all 39 polytechnics have already expressed support for the initiative.

There are about 270 statistics teachers in the polytechnics, and a number including Sheffield and Coventry (Leicester) have independent statistics departments, although statistics is more often linked to mathematics and computing in one department.

The new society, yet to be officially named, will be mainly concerned with issues relating to the teaching of statistics to undergraduate students.

Top priority for the society will be to press for statistics to be given a higher student staff ratio. Statistics, mathematics, and computing were all shifted from group one to group two of polytechnic subjects, increasing their SSR from 9:1 to 11:1.

The steering committee has also been asked to look at the role of statistics in the Business and Technician Education Council course syllabi, teacher assessment in the age of the microcomputer, reforms being discussed by the National Advisory Body on public sector education, representation of statistics on Council for National Academic Awards subject panels, and the use of unified computing software.

of people working in the libraries. But Mr John Grogan, retiring president of OUSA, told congregation said the wording of the NUS-CVCP agreement precluded the extension of student from discussions of general staffing matters.

Both Nalgo and ASTMS have consulted their members and national headquarters and had raised no objections to a student presence, he said.

The amended decree was approved by 712 to 297 in the ballot.

## Let Tutu come to Britain, say bishops

Thirty Anglican bishops, the dean of St Paul's and the principal of King's College, London, have all protested to the South African government about its refusal to allow Bishop Desmond Tutu, to leave the country.

The Right Rev. Desmond Tutu, Bishop of Lesotho, is a former student and fellow of King's College. He was recently refused travel documents to visit London, when he was invited by the dean and chapter of St Paul's Cathedral to preach there, and by the dean of King's to talk to staff and students.

Lord Cameron, the principal of King's, said in a letter to the South African ambassador that they were extremely distressed and concerned at what had happened.

"We believe that this denial of international travel and free speech is totally contrary to the Christian and civilized values for which South Africa claims to stand. Such an action can hardly be in the interests of South Africa itself, for at a time when so many are saying that only violence will bring about change in South Africa, Bishop Tutu is courageously affirming the way of non-violent change."

"The South African government has made, and is making, a number of overtures to academics in the University of London to ask them to accept jobs in the University of South Africa."

"It is difficult, however, to see how they can be encouraged to accept when distinguished international figures like Bishop Desmond Tutu are forbidden to accept engagements abroad," he wrote.

A letter signed by 30 bishops, all fellows of King's College, including two former archbishops of Canterbury, Lord Coggan and Lord Ramsey, has also been sent.

They say they are unhappy by the refusal and that "this unwarranted restriction is a violation of the tradition of academic freedom stretching over many centuries, which encourages teachers, pastors and especially those who have been honoured by universities, to take part in free speech and reasoned argument."

## Agricultural council takes on food research

by Jon Turney  
Science Correspondent

The Agricultural Research Council has set up a food division to oversee research and development for the food industry. The decision to divide responsibilities formerly held by the animals and food division, is in line with a recommendation last year from a working group of the Advisory Council for Applied Research and Development, and will give the ARC three main divisions instead of two.

The new division, to be headed by Professor Frank Curtis, director of the ARC Food Research Institute at Norwich, also heralds a change of name - to the Agricultural and Food Research Council - subject to Privy Council approval. The council will seek to

promote training and research funding in universities and institutes into food-related topics including nutrition, food processing and machinery.

These changes, together with backing from the House of Commons Agriculture Committee's report on research and development published last week, may strengthen the ARC's hand in its fight to reverse a 1982 recommendation from the Advisory Board for the Research Councils that its budget be reduced over the next three years. The commons committee, which also endorsed the idea of a new food division, judged the ARC's research programme to be better thought out than the work funded by the Ministry of Agriculture, the other main source of money for agricultural research.

The committee's report backed the argument of Dr Ralph Riley, the ARC's secretary, that the ARC exceeded its remit in its budget proposals by giving advice on questions beyond strict scientific priorities. The report says the secretary of state at the Department of Education and Science should look closely at this as a question of principle.

The University Grants Committee and the National Advisory Body have set up a joint working group on advanced courses in forestry and agriculture. The working group, chaired by Professor Keith Clayton of the University of East Anglia, will examine whether existing courses meet students and employers' needs and recommend changes in provision. It will report next year.

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## Overseas news

## Row over activist's sacking

Maćin Frybes, a former activist in Poland's banned independent students' association (NZS) has recently become the focus of a confrontation in Warsaw University's mathematics department. Mr Frybes was given a university post by the relevant government department, and then immediately dismissed by the rector on political grounds. This anomaly points the contradictions in Polish academic life under Jaruzelski and throws some doubt on the value of new legislation on tenure.

Mr Frybes received his MA degree in mathematics in 1981. New graduates are bound to work for the state for three years, and he set about finding a job. In January 1982, shortly after the declaration of martial law, the professor of mathematics, Professor Cizicki, recommended him for the post of technical engineering assistant in the department. The job is primarily administrative, arranging and coordinating timetables and study programmes - but is usually given to a new graduate.

The dean of mathematics, Dr Henry Wozniakowski, and the director of the Mathematics Institute of the university, Dr Ryszard Engelking supported the appointment. Dr Henry Szmielew formally applied to the government Plenipotentiary for Graduate Employment, who gave his approval.

Frybes, who had been interned during the summer of 1982, started work on November 2, 1982. Nine days later, he was fired for having participated in a pro-Solidarity demonstration the previous day. Frybes maintained, and still maintains, that he took no part in the demonstration, and has witnesses to prove it.

By this time, Dr Samsonowicz had been replaced by a new government appointee, Dr Kazimierz Dobrowolski. When Professor Wozniakowski raised the case with the university senate, there was a heated discussion. Dobrowolski reportedly exclaimed: "It comes to this - either Frybes goes or I do". A vote of confidence was taken, and Dobrowolski won by two votes. In a face-saving gesture, the senate appointed a commission of lawyers to examine the case, chaired by Dr Zbigniew Salwa, a party member who specialises in labour relations and trade union matters.

In March 1983, the commission submitted its findings to the senate. Frybes, it found, had been wrongfully dismissed. By this time, a new tenure law had come into force, requiring universities to give a form of tenure to all employees who had already been in employment on January 1. It had been known for some months that this law would come into effect, and Dobro-

wolski, at the time he fired Frybes, must have been aware of it.

On receiving the commission's report, Dobrowolski signed a contract of employment for Frybes, backdated for three months and non-renewable. According to some of Frybes' sympathisers, Dobrowolski seems to have been motivated throughout by a desire to avoid having to grant tenure to Frybes.

By this time, news of the affair had reached mathematicians abroad, who wrote to Dobrowolski expressing their concern that a colleague might be being penalized on political grounds. Dobrowolski eventually wrote back saying that this was a gross interference in the internal affairs of the university, and stating that Frybes was only a mediocre student, and not the right person for the job.

This claim is not strictly true. Grades in Poland are allotted on a scale of 1-5. Candidates receive three grades: one on the average of five years' university work, one for their written thesis and one for the oral examination. Frybes scored 4 in each of these sections.

Since April, Frybes has been without a job - in spite of Jaruzelski's regulations which oblige all able-bodied citizens to carry out "socially productive labour".



American doctors: 'will begin to expand high technology areas'

## Teaching hospitals 'going into decline'

from E. Patrick McQuaid

WASHINGTON

A leading advocate for community health care believes that university teaching hospitals in the United States will go the way of their more commercially-oriented counterparts, shrinking in service and becoming "less socially relevant" to lower-income citizens. Dr David Rogers, speaking to an annual assembly of the Stanford Medical Alumni Association, predicted that academic medical centres will rethink those services that produce deficits - among them home care, family planning, rehabilitation and social services - and try to eliminate them.

"We will see progressive shrinkage in the size of basic science departments and top heavy clinical faculties," said Dr Rogers. Clinicians who double as members of the teaching staff would be recruited largely for their abilities to result in high fees and good hospital reimbursements rather than for their teaching and research skills.

Dr Rogers is head of the Robert Wood Johnson Foundation in Princeton, New Jersey, one of America's largest private foundations that concerns itself with improved health care. The poor will be most severely affected, he said, because while academic medical centres make up only 5.6 per cent of American hospitals, they provide a disproportionate share of 47.2 per cent of "charity care".

White 20 to 30 major academic medical centres, including Stanford, will be able to continue and even expand their biomedical research capabilities, Dr Rogers said, most because of declining. The latter will become increasingly training institutions for doctors, with less and less resemblance to other university graduate courses and more tenuous university ties.

"It is evident that the nation is at present unwilling to pay the full costs of all the research," he said. In addition, because of the oversupply of doctors, and the high costs of care created in part by high technology and overspecialization, government

will demonstrate a progressive unwillingness to pay all of the costs of sustaining those features which distinguish the academic medical centre from medical education, residency training, research and scholarly pursuits.

"In an effort to stay afloat, many academic medical centres will begin to expand all high technology areas - open heart surgery units, pathology laboratories, intensive care units, CT scanners and radiotherapy units," he said. "These generate respectable revenues."

"They will create or spin off potential profit-making enterprises, or establish satellite clinics or affiliations with smaller hospitals and other health delivery plans to ensure an adequate flow of patients. They may get involved in the construction of facilities for fee-for-service ambulatory care, preventive health services, or health spas."

"Faculty and hospital board meetings will increasingly resemble the annual stockholder meetings of multinational corporations."

Dr Rogers said: "It would be a dreadful mistake if academic medical centres became just another profit-making institution."

He suggested that academic medical centres should turn the spotlight on their unique social purpose - the training of young men and women to be the doctors of tomorrow.

"In the rush for bigness, medical students have almost been forgotten," he said. "More attention to the care and feeding of medical students should be given, more rewards to faculty for paying attention to them, more concern for their attitudes toward science, for the values they acquire, and the ways they approach the care of the sick."

"Despite the costs, academic centres should stoutly maintain their traditional mission of caring for the less fortunate."

He said academic centres should also seriously address the problem of the oversupply of tertiary care oriented specialists.

"It is killing you," he told the audience. "The crying need is for more generalist physicians."

## Southern students 'likely to quit early'

from E. Patrick McQuaid

WASHINGTON

Southern states have taken the lead in tackling America's serious shortage of maths and science teachers - but academic achievement scores still rank well below national norms and the rate of students likely to quit school remains exceedingly high, according to a regional study.

The Southern Regional Education Board's report on higher education was delivered at its annual meeting in Florida. The agency is based in Atlanta, Georgia.

A special task force examined regional accomplishments against an agenda spelled out in 1981 and reported as the most notable trend the "new spirit of cooperation between schools and higher education" during the past two years.

The report said: "The region's momentum during the last two years in strengthening high schools graduation requirements, raising college admission standards, and mandating minimum requirements for teachers has propelled it to the forefront of what is

proving to be a nationwide movement."

Cause for concern, however, is found in a trend suggesting that southern students are less likely to be educated at every level. Elsewhere, average teacher salaries remain abysmally low. Some 13 states fell short of the 1982 national teacher's salary average of \$18,976. The state of Arkansas was 26 per cent below the national average with Texas closest to the average at 8 per cent below. Only one state in the survey, Maryland, exceeded the average, which was at 10 per cent.

A loan-scholarship programme initiated in Kentucky last year was called "the broadest in the nation" and the commission had high hopes for similar legislation in Georgia and other states.

State boards of education, said the report, have been working closely with higher education regents to set higher standards for admission into teacher training programmes in North Carolina, Virginia and Georgia. Consultation over minimum standards for college admission has been going on between universities and school systems in Kentucky, Florida, Mississippi, and Louisiana.

## Minister steps in to stop mergers

from Geoff Muslen

MELBOURNE

Forced amalgamations of two Australian universities with neighbouring colleges of advanced education have been stopped by the federal minister for education, Senator Susan Ryan. Higher education institutions at Armidale and Newcastle in New South Wales will not now be obliged to merge, as the former Fraser government had demanded, under threat of withdrawing their funding.

During the election campaign in March, the Labor Party promised to stop the amalgamations. Senator Ryan said the government had rejected policies of coercion and contraction which had been the "hallmark of the previous government's approach to higher education".

But the minister's decision also reflects clear recommendations by the Tertiary Education Commission that the four institutions concerned should be rationalized.

In a paper to the minister, the commission warns the decision will be more costly to implement and could result in the stopping of other mergers already under way. The previous government required economies of \$111m a year from the mergers of 39 CAEs, two of which have so far amalgamated with universities.

The funds saved were redirected in the 1982-84 triennium, the commission says. But if the mergers at Armidale and Newcastle do not go ahead and the institutions involved get increased funding as a result, other universities and colleges will also demand increased grants.

It points out that over the last five years the four institutions at Armidale and Newcastle have experienced significant declines in their full-time enrolments and that there is a substantial overlap in the disciplines offered by the organizations in each city.

Australian university and college academics seem certain to apply to the Arbitration Commission for registration, following a historic High Court decision. The likely move is because of a decision by the High Court to broaden the definition of the term "industrial dispute", and a clarification of what represents an industry. The general secretary of the Federation of University Staff Associations, Mr Les Wallis, said it was likely the higher education associations would apply to the arbitration commission for registration after a federal executive meeting in July.

By applying for registration and allowing the commission to adjudicate in disputes between university and college administrators and academics.

## 'God' essay upsets officials

An essay on "God and politics" published in a monthly newsletter from the US Education Department worried officials as much as they destroyed the entire issue.

A two-page guest commentary written by the department's director of regional liaison, Mr Robert Billings, was considered inappropriate material for the government to be commenting upon, said a representative.

The newsletter was to be delivered to 3,400 college students but distribution was blocked by the department's assistant secretary for legislation and public affairs, Ms Anne Graham.

Mr Billings was executive director of the Moral Majority, the right-wing, fundamentalist Christian organization, before joining the Education Department.

His article accused public officials of being afraid to praise God in public and criticized the Supreme Court's recent decision to bar tax exemptions to schools practising racial discrimination.

The department did not block distribution, however, of a recent issue in which the National Education Association is harshly criticized for its stand on a nuclear war curriculum. Department representatives said this was "a policy issue... not a political one."

## Racial quota system angers white liberals

from Craig Charney

JOHANNESBURG

Legislation to impose racial admissions quotas at South African universities has been approved by parliament amid bitter criticism and threats of defiance.

The new law replaces a system in which black students were obliged to seek individual ministerial permits to attend white universities. Instead, the minister in charge of white education, Dr Gerrit Viljoen, will now set the percentage of black students to be allowed at white institutions.

The new system has received intense opposition from the English-medium white universities, and from the Liberal Progressive Federal Party opposition. They argued that it would entrench university apartheid, and force universities which had previously maintained formally colour-blind admissions policies to implement racial discrimination on behalf of the government.

A bill to establish similar quotas for technical colleges was put through parliament on the heels of the bill for the universities.

When black students are admitted to white institutions under the quotas, Dr Viljoen stated in the house of assembly,

they will be required to live in separate, segregated residences.

At the University of the Witwatersrand in Johannesburg, the students representatives council called for defiance of the new law, through the elimination of all references to race from admissions applications. The same stand was taken by 200 academics at the University of Cape Town.

No decision has yet been taken by authorities at the English-language universities on compliance with the quota system.

Meanwhile, the Medical University of Southern Africa (Medunsa), one of South Africa's two black medical schools, has been closed since June 10, following a one-day student strike. The students were protesting at the summary dismissal of two former members of the students representatives council.

Acting rector, Professor T. Dunston, said the action was taken because the two had "intimidated" fellow students. According to other students, however, they had actually pleaded unsuccessfully for moderating student opposition to a mandatory class trip scheduled by an English lecturer to the state theatre, seen as a symbol of government authority.

## Professors lose majority on university councils

from Guy Neave

PARIS

Swinging cuts are to be made in the numbers of outsiders sitting on university councils, following the debate on the future of the Higher Education Guideline Bill in the French National Assembly. The government also proposes to go some way in relaxing certain aspects of control over university finance.

The issue of how the universities are to be controlled has been the subject of acrimonious debate. In the student movement, both left and right have called for the number of non university workers on such bodies to be reduced.

In future, university affairs are to be conducted by three councils: the administrative council, chaired by the university president (France's equivalent of the vice chancellor) which will have overall responsibility for the management of the individual establishment; an academic council and a council to deal with university studies and internal affairs.

The dispute between the government and the opposition over the number of seats to be kept for full professors in all three bodies was particularly bitter. Opposition attempts to have three electoral colleges with separate voting by professors, lecturers and junior lecturers, were thrown out without ceremony. So too were attempts to reassert professional power.

In future full professors will fill half

the seats set aside for university teaching staff but academic staff will account for no more than 45 per cent. This, as the right wing opposition pointed out, will mean that professors will no longer be masters in their own houses.

Student representation has been increased, largely as a result of the events of the recent weeks. The 1968 guideline law set aside 15 per cent on the university administrative council for the student estate. This is to be increased to between 20 and 25 per cent.

The reduction in the number of outsiders on university governing bodies is pleasing to all sectors of academia. If, originally, some 45 per cent of places on the administrative council has been seen as their part, this is now to be reduced by around 20 per cent to 30 per cent in all. The exact number will be up to the university to decide.

In the area of university finance, the opposition pressed strongly for the creation of a type of University Grants Committee to act as intermediary between central government and the universities. This too was rejected.

However, universities are to be encouraged to seek additional resources by having the power to form contracts with both public and private enterprise. As state-run institutions, they could not do this previously.

As the National Assembly debate drags on, the question in most people's minds is not whether it will be passed but whether it will be implemented or simply remain a dead letter.

## Entry rules 'hamper exchange'

from James Hutchinson

BONN

Tighter controls on the entry of non-EEC foreigners into West Germany have caused a big decrease in the enrolment of foreign students. Applicants from third world countries are affected most, but the restrictions are also reducing the intake from Japan.

The German academic exchange service (DAAD) complains that these and other factors are seriously hampering the mobility of students. Moreover the liberal reputation of German universities is suffering, and in the longer term harm would be done to international political and economic relations.

Foreign students and university teachers, the service declared, often became good ambassadors of Germany. DAAD is appealing to the minister of the interior to ease the restrictions. As things stand, foreign applicants are granted residence permits in Germany only after they have been admitted to a German university. The rigidity of the procedure causes endless red tape, as well as hardship. Germany currently has 66,000 foreign students, of whom 35,000 are from developing countries.

It is feared that the decision of the centre-right government to make student grants repayable will cause a drop in the number of German students attending foreign universities. The exchange service explained that the spell abroad usually delayed graduation, and the longer the course, the higher the repayable loan.

## Toronto helps Peru with forestry programme

by Thomas Land

The National Agrarian University of Peru is about to establish the country's first post graduate forestry science programme. The project is aided by the University of Toronto under a five-year, \$2m contract. Peru is one of 14 countries in the focus of a global campaign to save the world's remaining tropical forest cover whose relentless destruction is associated with disastrous current climate changes in the southern hemisphere.

Over the long-term, these changes may spread to endanger the world's foremost wheat-yielding areas - North America and Europe.

The Peruvian university, at La Molina, near Lima, is the main source of agricultural professionals required for revitalizing the country's farming sector. The university was severely damaged by a recent earthquake.

Dr V. J. Nordin, the dean of forestry at Toronto University and the executive director of the present pro-

ject, explained: "This is a landmark in self-help higher education, and it will encourage Peruvian postgraduates to stay and work in Peru." His department is to coordinate Peruvian staff training at Canadian universities and assign five Canadian professors to teach at La Molina.

The project follows a series of studies over the past decade concerning the spreading, moon-like deforestation of the edges of upper Amazonia along the edges of mountains in Peru and Ecuador. The studies, conducted by Dr J. Lopez-Paredi of the Peru Proyecto Pan Janero Herrera and Dr.

A. H. Gentry of the Missouri Botanical Garden, suggest that the long feared climatic changes resulting from large-scale deforestation have now begun.

The collaboration agreement linking the Peruvian university with its Canadian counterpart is to be financed from an award raised by the Canadian International Development Agency. In addition, the World Bank has just granted a \$17.3m long-term "soft" loan to Peru partly to improve the facilities at the La Molina university and partly to make up for the remaining damage caused by the earthquake in 1974.

## Sri Lanka's eastern promise

Sri Lanka's Ministry of Higher Education will soon send a delegate to Japan and the People's Republic of China to reach agreement on the mutual recognition of university degrees. Non-recognition of Japanese and Chinese degrees for purposes of employment

has led to a large number of Lankan graduates not being eligible for employment in the local public service. Once formal agreement is reached the government plans to send more students for diploma and degree studies in these two countries.

## Overseas fees 'break law'

from Lindsay Wright

WELLINGTON

Nearly two and a half years after receiving extensive submissions on the matter, New Zealand's Human Rights Commission has told the Prime Minister that the government's \$1500 fee for private overseas students breaches international law and agreements to which New Zealand is a party, and should be changed.

The fee was introduced in 1979 with an amendment to the Education Act by which overseas students from outside the South Pacific region were required to pay annual tuition fees of \$1500.

The New Zealand University Students' Association and Auckland University law lecturer Dr Jerry Elkind argued that the act "requires discrimination, not only between New Zealand citizens and non-citizens, but also between categories of non-citizen."

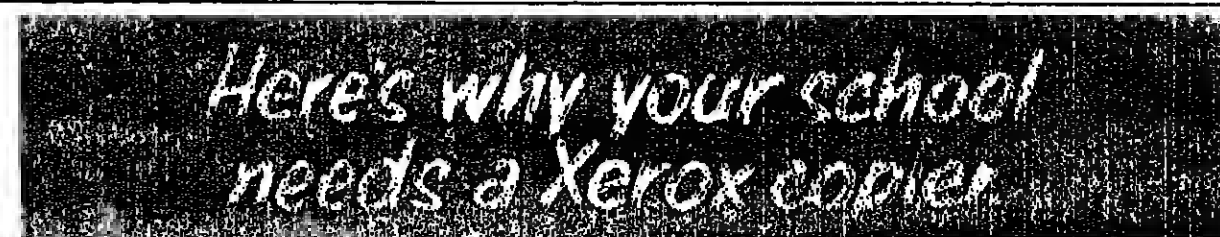
In December 1979 New Zealand ratified the UN Covenant on Economic, Social and Cultural Rights and in 1963 it had ratified the UNESCO Convention Against Discrimination in Education.

Under the UNESCO Convention, said Dr Elkind "there is a duty to abrogate statutory provisions involving discrimination in education. The Education Act is a statutory provision involving discrimination in Education. A simple syllogism requires the conclusion that the government is under a duty to abrogate the act."

NZUSA president Robin Arthur claimed that in spite of the Human Rights Commission report the government was working on a proposal to introduce even higher fees for overseas students.

Minister of Education, Mr Merv Wellington has told NZUSA that the government is considering changes to access and fees for private overseas students although no changes to conditions of Pacific and ASEAN (Association of South East Asian Nations) were involved.

Robin Arthur argues that if these proposals were implemented the existing restrictive policies will be worsened. New Zealand's foreign aid commitment will be further cut and social inequalities will be bolstered.



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Peter Scott reports from an international conference on higher education and research organization

## Sweden's permanent university reform

"Research and Development for higher education" is a deeply unfamiliar and even uncomfortable idea in Britain. In Sweden it is the title of a large-scale Government programme made up of almost 40 major research projects.

The idea is unfamiliar in Britain because the academic has probably too feebly contemplated a Swedish-style higher education research programme, despite the achievements of the recent Levarhulme inquiry. Here educational research is a poor relation of the mainstream social sciences and higher education research is its orphan son; in Sweden the study of education is a central preoccupation of both social scientists and humanists.

The idea is perhaps uncomfortable because in right-thinking Britain it may suggest over-mathematical social engineering. The University Grants Committee and the National Advisory Body, of course, have no research programmes and the Department of Education and Science tends to use one-off research to sustain or to disrupt the prejudices of ministers.

In Sweden where after almost three generations of Social Democratic rule (with a fleeting interruption in the later 1970s) reform is taken seriously, this substantial research programme is masterminded and paid for by the National Board of Universities and Colleges, the equivalent of the UGC and the NAB and a bit more headless.

The national board's research programme is divided into five broad problem areas: 1) the role of higher education; 2) the organization of higher education; 3) the conditions and potentials of research; 4) the conditions and potentials of education; and 5) R and D organization and planning.

However interesting shifts in the balance of the programme have taken place during the 1970s. Ten years ago the fourth area, teaching, attracted the most support, 43 per cent of the total grants made by the national board. Now it gets only 13 per cent of the money. The first area, the role of higher education in society, has maintained its

share at about 40 per cent. But areas two, three and five – organization, research and R and D – have substantially increased their shares.

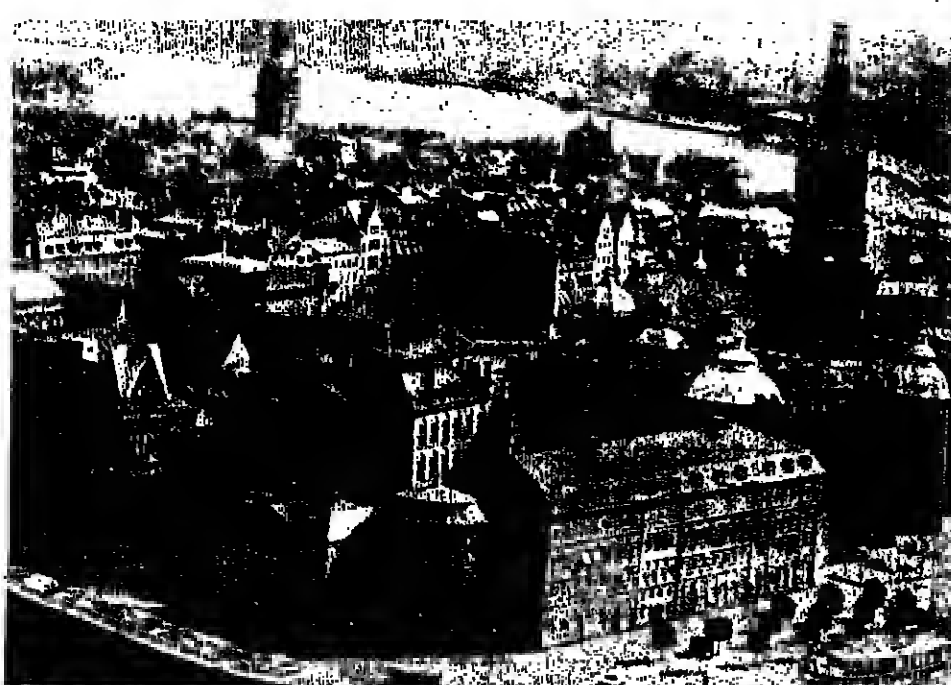
Ten years ago education and psychology made the predominant contribution with 70 per cent, followed by sociology with 18 per cent of the grants. Today political science, philosophy, history, and economics, which made a negligible contribution at the start, have become much more prominent.

These shifts reflect the broadening scope of the national board's programme away from its original narrow base in education faculties within the universities, and also the growing interest of Swedish higher education in the organizational, sociological, and even philosophical aspects of policy and reform.

These new preoccupations were reflected at an international conference on studies of higher education and research organization organized by the national board earlier this month near Stockholm. There were over 60 participants, most from Sweden and deeply involved in the higher education research programme but with 15 visitors from abroad.

The conference was divided into three groups each with its theme. The first was "Higher Education Organization: Conditions for Policy Implementation", which zeroed in on the policy studies people and organization men (and women). It also reflected the Swedes' preoccupation with the meticulous evaluation of reform. Committed social engineers after all have to spend a lot of time on maintenance.

The second theme was "The University Research System: Performance and Policy". This was familiar territory for the science policy experts. But it too reflected a wider worry that was not confined to Sweden. This was the concern that higher education increasingly is being bypassed by those who want quick and useful research, and that as a result proper articulation between universities and research has begun to crack.



Stockholm: centre of three generations of Social Democratic rule

The third theme was "Knowledge Policy and Knowledge Traditions in Higher Education". Here the futurists of the knowledge society, the philosopher-intellectuals, and the humanists apprehensive about the advances of mechanistic science came into their own.

But this theme too addressed a particular preoccupation of Swedish higher education – has the creation in the 1970s of comprehensive universities accelerated the process of academic drift and so impoverished the ethical, aesthetic, or simply practical qualities of higher education?

One way to describe the conference was as an exercise in the fine-tuning of Swedish higher education policy, part of the process of permanent reform that is a feature of social democratic Sweden. Another as a slice through the layers of priorities of those engaged in higher education research.

According to this intellectual excavation Swedish higher education has moved from its original preoccupation with what could be called the

pedagogy of university reform to its organization and political economy. This took place during the 1970s.

An informed guess, on the strength of this month's conference, might be that in the 1980s Swedish higher education will show a growing interest in the basic values, cultural as well as intellectual, that are expressed through the university system. In other words, the preoccupations of the third theme on knowledge traditions.

This pattern is likely to be the same far beyond Scandinavia. Just as the narrowly-focused interest in pedagogy gave way under the impact of large-scale expansion during the 1960s and 1970s to broader interests in organization and structure, so in the 1980s the end of expansion and the beginning of uncertainty may lead to a more sustained exploration of the basic values of higher education. So, although the Swedes may have a different approach – a better one, may be – the centre-left in Britain may be tempted to sigh since June 9, they face similar dilemmas.

## Social democracy clashes with the frontier spirit

Two fissures of disagreement, on the proper role of the state in higher education and the imperialism of science, ran through the four days of discussions at the conference. The first was held on an island at the edge of the Baltic 30 miles from Stockholm.

The first developed into a battle between the Americans and Europeans with Professor Martin Trow, director of the Centre for Studies in Higher Education at the University of California at Berkeley, and Rune Premfors, a political scientist at the University of Stockholm, as their respective champions.

For Martin Trow, "the state was all thumbs and no fingers" and incapable of making the fine adjustments needed to satisfy changing demands. For Rune Premfors, the intervention of the state was necessary to produce a healthy and balanced development of higher education to meet social needs. It was the old dichotomy of de Tocqueville: freedom, in the shape of

change, or equality, in the shape of justice.

In his own plenary paper, a case study of academic leadership at Berkeley, Professor Trow made this explicit. Excessive state control in Europe had led to a neglect of institutional leadership. Perhaps for the simple reason that European institutions and those derived from European models do not give institutional leaders very much power.

Professor Burton Clark, head of the comparative higher education group at the University of California at Los Angeles, extended the argument for diversity. He argued that the growing complexity of higher education meant that we had to accept some functional inequality. "Equal treatment" became more and more difficult to define let alone maintain in the face of growing diversity.

He concluded: "Higher education is a realm *par excellence* for defending small favouritisms and the vitality of local groups. Limited inequities are not

only functionally necessary but offer some defence against the unlimited ones that eventually flow from the tyranny of the regulators."

The Swedish reply in broad terms was to admit that there were some things in higher education which the state could not do but to insist that there remained things which the state, and in a few cases the state alone, could do. Jan-Brik Lane, a political scientist from Umeå University, concluded: "Examining Swedish higher education policy in terms of the logic of its decision making and the implementation of its programmes and goals we do not find evidence of extensive irrationality and fundamental policy failure."

But both he and Rune Premfors accepted that there had been an attempt to introduce administrative and planning procedures that were not always consistent with the nature of academic work.

The last word from Rune Premfors: "The choice of implementation strategy will never be a technical matter. It has important implications for two of the most basic values in higher education, autonomy and accountability, values which are in their turn in a complex fashion related to other basic values such as equality and excellence."

The second fissure concerned the alleged imperialism of science and technology and their crowding out of the humanities and, more expressive and practical subjects like music or nursing. Here there was not so much disagreement but rather a contrast between the complacency of those who did not really take this issue seriously and the partisan desperation of those who did.

Professor Gernot Bohme, a philosopher from the University of Darmstadt in West Germany, painted a gloomy picture of the technological future. He argued that in the future the development of society might be determined as much by ownership of expert knowledge as by ownership of property and other more traditional factors. Many therefore would find their status undermined. They would become the objects of knowledge in the computers of bureaucracy or a new registration society.

Gunnar Bergendal, rector of Malmö school of education in the University of Lund and formerly secretary of the influential U-68 commission which reformed Swedish higher education, argued that Swedish universities encouraged a one-dimensional view of knowledge. "Knowledge is thought of as distributed in a Cartesian space of objectivity in which all points are of identical and impersonal character," he explained.

He listed four factors that had encouraged this one-dimensional view of knowledge. First, widespread choice of subjects in the upper secondary school had made it difficult to produce a properly integrated curriculum; second, the practice of gradual specialization in universities meant that broad introductory courses had to be superficial; third, large institutions encouraged homogeneity; and finally, admission to higher education imposed uniformity.

In more practical terms many participants at the conference, especially those assigned to theme three, who came from outside the traditional university faculties, felt threatened by what Professor Bohme called "scientification" but might be more familiar in Britain as academic drift. More orthodox entry requirements for students, the need for academic staff to have PhDs, the search for an adequate research base, were all sources of worry.

Yet hardly anyone was prepared to say that the decision in the mid-1970s to incorporate all forms of higher education in comprehensive universities had been a mistake. The prospect of a British-style binary policy or an American-style hierarchy appealed to no one. It was also clear that some of the most intense pressure for academic drift came from those within the non-traditional faculties and departments, rather than their academic colleagues.

So when Professor Clark observed that by the end of the century the decision by some European countries, including Sweden, to establish comprehensive universities would be seen as a "huge error", he received little open support. Clearly in Swedish eyes the war against Cartesianism had to be an offensive struggle on a broad front

rather than a defensive one from isolated strongholds.

The second theme, on the university research system, produced much less controversy. Here a commitment to relevant research was reaffirmed together with some caution about too precipitate a rush into utilitarianism. Stuart Blume, formerly at the London School of Economics and now at the University of Amsterdam, argued that universities should resist an arbitrary classification into "useful" and by implication "useless" subjects.

More hopefully he predicted that in the 1980s there would be a move away from the highly specific research policies of the last 10 years and towards the broader identification of fields of study that seemed promising both intellectually and in their likely application.

The same broad agreement did not apply to views about the usefulness of theoretical models in higher education research. In recent years models have proliferated – administrative models, loosely-coupled models, garbage-can models, forward and backward mapping models, even from Burton Clark with his tongue half in his cheek "the model of the master matrix" or the 3M for short.

It was all too much for Martin Trow who attacked models as "theorizing in cold blood" and "willful theorizing". He appealed for more detailed case studies, what he called "the natural history of particular reforms". He added that models were often a handicap to the search for knowledge and quoted T. S. Eliot with approval: "making the will do the work of the imagination".

But, perhaps to show the cultural gulf between Social Democratic Sweden and Republican America, he was not unridiculed. Professor Trow did express some qualified approval for yet another model, that of a changing contract between higher education and society, that has been devised by Kaija Fridjonsdottir of the University of Lund. Perhaps we should not be surprised at this exception. After all, the British experience is that if the bridge wide gaps that we invent "social contracts".

Leader, back page

## PROFILE

Ngaio Crequer looks at the career and character of the new chairman of the UGC



## Dyer consequences

chancellor of Keele University who has known Sir Peter for nearly 30 years. "He played a big part in guiding Cambridge into the twentieth century. There were plenty of dons then who did not believe in consultation, on proper procedures for students discipline."

"He played a big part in advising the university consultative committee and influential inquiries into the new roles of proctors. He did a lot of work on it and was very good at it."

He remembers the debt Sir Peter dealt with problems. One question came up: supposing a student hit the proctor, what would happen? Swinnerton-Dyer said it was a very serious thing to hit the proctor, therefore, the proctors must make sure they were over him.

As dean he made sure he knew everybody and became involved in everything, so he could always anticipate problems before they arose. At Cambridge generally he served on most university committees at one time or another. He was always generous with his time, and meetings would sometimes start mid-evening and not finish till midnight.

According to Ian Nicol, secretary to the board, Sir Peter played a central role by sheer force of his personality. "He is the only master I know who the new graduates line up and cheer him."

But in October 1981 he upset many people when he made his valedictory speech. He described some dons whose teaching and research effort fell away. "Some of them appear less and less in lecture room and laboratory; others merely give the same aging lectures from the same aging lecture notes... here as in every university there are academics who draw a full day's pay for half a day's work; and it is tenure that protects his state of affairs."

Some colleagues were offended, particularly as some were genuine retirees. They criticized his judgment and lack of timing. Others held that he was making an important contribution to the national debate.

Whatever one's views Sir Peter was not subsequently elected to the council of the society, though he had served for about 15 years. His speech and the feeling that it was time for someone new, played a part. He was obviously hurt by the vote. In the past it had been routine to elect him.

Sir Peter has a tremendous capacity for hard work. When vice-chancellor he chaired the committee of academic organization inquiry into London University. He is a senior member of the Advisory Body for the Research Councils, he chairs the steering group plot-

ting the merger of the New University of Ulster and the polytechnic. He headed the inquiry into postgraduate completion rates.

But he has not forgotten his academic roots. He is an eminent mathematician and has done important work in four areas, differential equations, algebraic geometry, number theory and computing. It is unusual for someone to maintain a continued interest over so wide a field. He was an early pioneer of the use of computers in mathematics.

He has always insisted on doing a full lecturing programme, even when in high office and was instrumental in modernizing the mathematical tripos.

He is described as a good chairman, with a clear mind and great capacity to listen. He is able to formulate the sense of a meeting. He does not like wordiness, verbosity or inefficiency but he is not unkind to those who fall to reach his standards. He is not autocratic.

In Northern Ireland Sir Peter has never refused to meet a group, however trivial their point. He makes people feel they genuinely have access. Derek Birley describes his chairmanship as that of a "benign steamroller". He has been careful not to mention the steering group in the merger so that those who run the new university can properly take over.

He uses his humour to defuse potentially difficult decisions. He is very witty. He enjoys reconciling those in entrenched positions. He can play politics though he is not a hackroom manipulator.

Nor is he easily manipulated. What he was chairing the inquiry into London University, Lord Auman, then vice-chancellor, wanted the group to speed up their timetable and report earlier than agreed because the financial situation had deteriorated.

Sir Peter thought this was unnecessary interference, undermining his authority and the group's credibility. He quickly mustered the committee together and drafted a letter which observers say amounted to one of resignation.

In fact he had no intention of resigning but he won his point. He says he is not a resigned man, having resigned only once in his career, from an area health committee because, he says, it was a waste of time.

He is described by those who have worked with him as someone who will say if a minister is wrong. Equally he will stand up to the universities if necessary. He relishes difficult decisions.

He is a good draughtsman. Sometimes he sits on one committee making notes for another. But sometimes he

makes his mind up too quickly and mistakes are made (as with the damning criticism of Chelsea College).

This willingness to stay behind, always to be prepared to talk has already proved an asset. No doubt inspired by his family motto, "Unwilling to fight, unacquainted with fear," he has accepted an invitation to address the Association of University Teachers Council, something Sir Edward Parkes, his predecessor at the UGC declined to do.

Actually the mistake was more of an accident than design, made by a member to an excess of zeal. Many other AUT members thought it was wrong that Sir Peter, known to have strong views on tenure, should have been asked to come. He was given an opportunity to change his mind but he declined.

His wit and charm turned it into an impressive performance

In his speech he said that tenure went too far, the Americans had got it about right, that there should be early retirement, possibly compulsorily, up to the year 2000 and that in the arts "research was for free". Council had been warned several times by the chairman to hear Swinnerton-Dyer out: in fact his wit and charm turned it into an impressive performance and the AUT questioning was tenuous.

What then are his views? David Harrido described approvingly him as a benevolent elitist and thinks that he Lord Flowers, an old friend, who soon becomes chairman of the Committee of Vice Chancellors and Principals, and Sir David Phillips, at the ABRC, will prove a formidable team.

He is persuasive. The "new blood" scheme and the complementary Royal Society fellowships owe a great deal to his promotion. He played a big part in the discussion about how the "new blood" scheme should operate, whether the UGC or the Research Councils should run them, or whether it should be a joint operation.

The protection of research will be a dominating aim and inevitably this will mean even more selectivity. He has already started that debate by making the distinction between research and scholarship. He told the AUT he did not favour a tier structure, with some universities doing mainly research and others concentrating on teaching.

One obvious point is that he has limited experience of universities. He only knows well Cambridge, some American universities and of course

London. He will need to do some field work.

He is instinctively against aarmarking but thinks the problem will be how to protect the good department in the less good university.

In a private speech last month to some overseas university teacher unions, whose both parties agreed not to release the text to the press, Sir Peter said that procrastination over early retirement "may lead to a situation which can only be solved by so attack on tenure more radical than anything which is now being contemplated. I don't want to see that happen; but we are moving into a world in which delay is less likely to be a good defence than it used to be, and in which to describe something as unthinkable is no longer an efficacious protection."

He went on to talk about the kind of courses offered by universities. "The claim that only the teachers can decide what courses are best suited to the needs and abilities of students is one which needs justification, and is not at the moment finding it."

More interesting are his views on the binary line. In the Ulster merger of course it will be abolished and he will be better placed than anyone to see what the implications are for the rest of Britain.

The problem of how to sustain the good department

In his speech he raised the question of the difference between universities and polytechnics. "If the two sides are not fundamentally different, ought there not to be some relation between their unit costs? The only strong claim to a fundamental difference that I have heard is that universities are meant to do research and polytechnics are not, and polytechnics would certainly challenge that statement."

He also said he could foresee a time when the UGC grant was made up of three components and universities were told how their grant was made up. The components would be: a formula-based allowance for teaching, based on student numbers and resources; a formula-based allowance for research – the UGC component of the dual support system; and allowance for special circumstances. "It would be very hard not to relate the formula for teaching costs to the corresponding formula for polytechnics."

As for research "the principle that every academic must be funded to do the research they wish to do cannot survive much longer... very soon there will be departments that are not expected to do research, and that have no funds for it. That raises the problem of how to sustain the good department in a bad university. That problem may prove too hard to solve. If so we shall come to have what America has now – universities which are respected teaching institutions but which have no research component." And, according to Sir Peter, "this would not be too terrible a thing."

Finally, Sir Peter is pledged to make changes in the UGC itself. He has said it cannot afford to be less open than the National Advisory Board. He has ministers' support for getting the UGC to explain itself in public. One idea may be for the committee to produce commentaries on its grant allocation. But whether Sir Peter can bring the rest of the committee with him will be interesting to see.

His style is instinctively open and that may have more lasting effect than any change in structures. Though his credentials may seem formidable, he is good company and like a good SDP person, knows a good claret and port.

He has a fast mind and enjoys games. He was an international bridge player and was once the non-player captain of the British women's team. He was also responsible for a change in the rules when he noticed that he could make an impossible bid and incur a lower penalty for failure than he would be incurring if he made a bid. After he had tried it in a tournament the rules were changed.

He has also said that the book which has influenced his career more than any other is S. J. Simon's *Why you lose at bridge* which contains the guiding principle "aim for the best result possible, not the best possible result".

He also plays chess and a more unusual game involving spiders stalking flies along the ribs of an icosahedron (a 20-sided solid). No doubt all useful experience for his new job.

## HIGHER EDUCATION

### That was the year that was

On December 31, 1982, THE THES published a special review of 1982 as it appeared to the tertiary sector of education. In separate articles there were examinations of policy, universities, the public sector, unions, teachers training and the National Union of Students. Developments in science, social science, adult education and the problems of the young were also featured. Special reports on higher education in Scotland and Northern Ireland were included, and in the international section, North America, France, South Africa, West Germany and Poland. There was a sampler of the year's features encompassing Sir Peter Parker on pluralism to Dr Roy Porter's analysis of the impact of fashion on the sciences.

The eight-page review has now been reprinted and is available to readers at a cost of 60p each (including postage) from the address below.

Please send your cheque/postal order (no cash please) made payable to Times Newspapers Limited to:

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## Karen Gold looks back on the retraining experiment that followed a steelworks closure

In September 1980, the British Steel works at Consett closed. The Durlam town became a byword, a stark social model of what was happening on a smaller scale and more hazily elsewhere.

But Consett also stood out from other major centres of unemployment because of an education and training clause - common in Europe but almost unheard of in Britain - written into the redundancy terms of the 4,350 steel workers employed at the time of the closure.

After their lump sum redundancy pay averaging £9,000, men under 55 and women under 50 were offered an entitlement to 100 per cent of their previous earnings, for a maximum of 52 weeks during the 78-week period following redundancy, if they followed an approved training course.

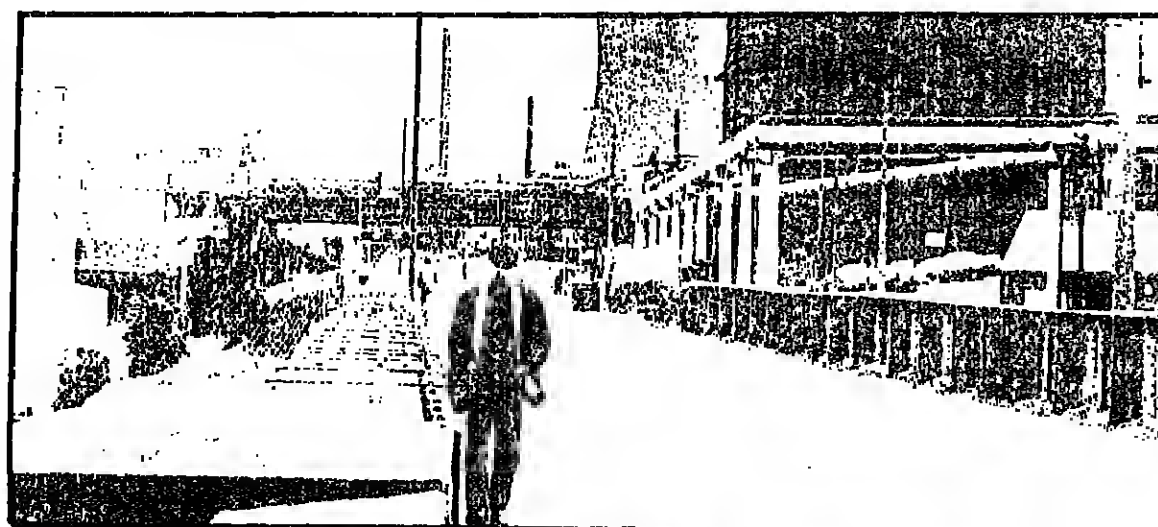
Eventually, 1,239 ex-British Steel employees - around 30 per cent - attended courses provided for them by Consett Technical College. By far the largest group, almost 700, went on a specially constructed basic education course; the rest slotted into existing college provision.

An unpublished study of that basic education course reveals just how unprepared the further education system was to respond to mass unemployment, and how wide is the gap between expectations of employers, manual workers and teachers as to what education can and should do for the unemployed.

The idea of the study was quickly taken up and funded by the Further Education Curriculum Review and Development Unit (FEU). It emphasizes that Consett was an example of crisis management of unusual proportions, and nowhere suggests that the college performed any better or worse than others would do under similar circumstances.

The study, which used a combination of interviews and questionnaires and was carried out by the college director and an FEU researcher, suffered from hostility and suspicion by students on the basic education course, who saw little difference between the FEU and one department in Whitehall and the Department of Industry in another, and therefore believed, despite denials, that their time and information were in fact going to benefit the BSC.

That hostile atmosphere affected the education scheme from the beginning. In some ways that was due to its novelty, and would disappear if such arrangements became common. But the study found it was also intrinsic to any arrangements made when a workforce is still fighting the very principle of redundancy, or in this case closure.



## The road from Consett

So by the time all sides had accepted the closure, the autumn term was days away and almost no specific provision at the college for ex-Consett workers had been made. Various men turned up at the college independently, and in early September the principal, two tutors and ex-students visited the BSC counselling centre.

Posters then went up at the steel-works and around the town, asking, "Do you want to brush up your English and maths to get you on a TOPS course?" From the beginning with that explicit link the TOPS preparatory course was the model for the basic education course, though with adjustments in hours allocated to communication, number and life and social skills, and the addition of workshop craft skills.

But the choice of the TOPS model occurred because of a profound division between the BSC, the college principal and the staff over what the steel-workers were entitled to and what they should be offered. Although the BSC admitted that employment prospects in the region were poor, they perceived the courses and the pay for them as preparation for further training for jobs, the report says.

Although the courses themselves did not have to provide job-specific skills, entrants to them had to specify what kind of work they were aiming for before they were admitted, and the BSC rejected both proposals for wider-ranging courses and individual applications.

College staff, on the other hand, thought the course should be more geared to preparation for leisure/unemployment, and the principal to studying the nature of unemployment.

The difference between an allocation of 12 and 24 weeks was more than £1,000 of make-up pay; the head of department making that decision daily was threatened several times with violence.

Towards the end of 1980, the college was besieged by applicants and suffering from a severe shortage of staff, the report says. Yet the staff who were there, though actively taking ex-steel-workers on to their existing courses, were far from wholeheartedly behind the basic education course.

Most established staff were not interested in adult basic education, which they saw as low-level work, the report says, and it quotes the course coordinator: "Senior members of staff have said to me, 'How's your add-up and take-aways coming on?', laughing, jokingly, but with a lot of needle in it. 'After all, we are a technical college' and this is not a technical subject" ... these were words used to me.

By the end of January 1981, 26 part-time staff had been recruited on to the course, whose numbers now had reached about 100. They reached their peak the following January at 235, and fell away after that until the redundancy agreement ended in May 1982. Only four of the staff working part-time were full-time members of the college staff; the rest were recruited from outside. In April the local authority agreed to six temporary full-time appointments, making coordination considerably easier, but shortages of materials and space continued to affect the provision until the course moved first into a college annexe and later into community buildings, halls and working men's clubs.

It was in the working men's club that the greatest problem over curriculum and teaching style occurred. Most of the students and tutors initially preferred a "workshop"-style approach, but tutors became increasingly aware that this meant hesitant or unmotivated students could avoid them and wait only at things they knew they could do.

They never entirely solved this problem, the report says, although they did manage to expand the curriculum and attract interest from students in subjects they initially rejected: art and literature, town and country planning, welfare rights, cooking and a series of visits. From the spring of 1981 until the end of that year and beyond, the courses became smoother-running and more successful, and the report included examples of poetry and prose emphasizing the high standard of some of the work.

Moving into the community happened relatively slowly - around February last year - although it was proposed by the principal some time earlier. Staff were unconvinced that it would be a success, and when it started morale was already flagging as the end of the BSC sponsorship period approached. The new move did attract other unemployed people apart from ex-steel workers, but the numbers were very small.

Appeals were made to the BSC, to the Manpower Services Commission and to the Durham education authority to continue to fund the course after May, none agreed. But the end of the Consett course was determined above all by the fact that after their BSC sponsored weeks were over, hardly any of the students returned.

Even arrangements for courses shorter than 21 hours a week, so they did not lose social security benefits, attracted little response. Most students interviewed said they thought the BSC course should have been longer, but clearly few held that opinion strongly enough to seek more education for themselves.

The reasons for this are not clear; undoubtedly, as the report acknowledges, some of the students on the course had simply been motivated by the extra income. Nevertheless the college did not manage to change that motivation in the time they were there. Most of all perhaps, unemployment by last year was considerably higher than when the course began, and their vocational usefulness seemed even more doubtful than before.

The report does not include information on what happened to the students after they left the college; a significant omission from the remit and a handicap in assessing a rare, worthwhile and poignant educational experiment.

importance that a perspective other than that of the practising broadcaster is needed, he believes. The innovations of Channel 4, breakfast television, cable and satellite are forcing people to question the assumptions of the last 30 years.

Jeremy Isaacs, chief executive of Channel 4 and also a Baird centre adviser, giving a lecture to mark the centre's inauguration, suggested that while consensus broadcasting was important, addressing the largest possible audience, its likely corollary was a refusal to appeal to certain audiences for fear of offending or losing viewers.

It has taken many years for television to become academically respectable, but Stephen Hearst is not surprised.

"It wasn't really until the 1960s that people agreed to have the thing in their drawing rooms. When I started in broadcasting and did a programme on Oxford, the distrust was so great that even to get permission to film a tortoise in Oxford College needed a full meeting of the fellows."

On the film side, research is likely to be of a more traditional kind, examining both individual films and the social and cultural conditions under which they were produced.

It is hoped to research the development of national cinemas, not least the renaissance of the Scottish film industry: at the directors' forefront in this year, two of the films, *Local Hero* and *Living Apart Together* were directed by Scots.

"We are very conscious of the problem of a nation which is on the periphery of broadcasting and film institutions. We're not just concerned to oppose centralization, but to offer alternatives," says Colin McCabe.



Colin McCabe: offering alternatives

## Getting the measure of the media

Olga Wojtas reports on a joint venture by Glasgow and Strathclyde universities

graduate course is broadly seen as producing graduates who will work in film and television, one of the few growth areas for art graduates.

The new Baird centre, however, staffed by the four media lecturers and Professor McCabe, will be geared more to people wishing to teach media studies. Professor McCabe feels. It will offer both M Litt and PhD degrees, with five or six research students accepted annually. It is hoped eventually to expand the centre: the staff wishfully cite the example of film and media studies at Stirling University which has the invigorating presence of a research professor, Alastair Hetherington, former editor of *The Guardian* and controller of BBC Scotland, funded by the BBC, IBA and the Social Science Research Council.

There are already a number of media research centres, but they tend to have a sociological slant rather than an arts one.

"The only things which have been done in depth are bias in current affairs and news programmes and audience research and the political effects of broadcasting," says Colin McCabe.



Stephen Hearst: special adviser to the director general of the BBC, and a member of the Baird centre's advisory committee, admits that broadcasts have been very suspicious about the whole distrust statistical methods. What interested him and a fellow committee member, Brian Wenham, the BBC's director of programmes, he says, was Colin McCabe's belief that English literature and its discipline should be brought to bear on the communications industry.

The Baird centre, Professor McCabe stresses, is the only place with its main focus on television from an arts perspective.

"It's interesting that when the centre was launched, the press latched on to academics watching *Coronation Street*. Soap opera is only about a fifth of the field, but why do people think it's funny to study the most popular dramatic form there has ever been?"

Staff at the centre are also anxious to affect the way media studies are introduced to schools. Media studies are proliferating, but in a very haphazard way, says Gillian Skirrow of Strathclyde. She thinks it seems an ideal course for young people who cannot find jobs, since it will keep them happy while making them feel involved in something progressive with possible job prospects. But no philosophy of the subject has been developed before introducing it.

Television is of such great cultural

importance that a perspective other than that of the practising broadcaster is needed, he believes. The innovations of Channel 4, breakfast television, cable and satellite are forcing people to question the assumptions of the last 30 years.

Jeremy Isaacs, chief executive of Channel 4 and also a Baird centre adviser, giving a lecture to mark the centre's inauguration, suggested that while consensus broadcasting was important, addressing the largest possible audience, its likely corollary was a refusal to appeal to certain audiences for fear of offending or losing viewers.

It has taken many years for television to become academically respectable, but Stephen Hearst is not surprised.

"It wasn't really until the 1960s that people agreed to have the thing in their drawing rooms. When I started in broadcasting and did a programme on Oxford, the distrust was so great that even to get permission to film a tortoise in Oxford College needed a full meeting of the fellows."

On the film side, research is likely to be of a more traditional kind, examining both individual films and the social and cultural conditions under which they were produced.

It is hoped to research the development of national cinemas, not least the renaissance of the Scottish film industry: at the directors' forefront in this year, two of the films, *Local Hero* and *Living Apart Together* were directed by Scots.

"We are very conscious of the problem of a nation which is on the periphery of broadcasting and film institutions. We're not just concerned to oppose centralization, but to offer alternatives," says Colin McCabe.



William Wilberforce: leader of the anti-slavery campaign



Africans were seized from the Ivory Coast and transported to the West Indies

## The fight against slavery . . .

This summer the city of Hull is recognizing the memory of one of its most famous sons, William Wilberforce. Next month, there will be an exhibition in the university library; the New Theatre, Hull, will premiere a new musical play, *Wilberforce*; and there will be exhibitions and performances of African tribal arts and crafts. The festival culminates in an international conference and services at Holy Trinity, Hull, and Westminster Abbey.

tionists such as Isaac Milner and the Rev. John Newton.

Converted to evangelicalism Wilberforce joined in 1787 the Committee for Abolition of the Slave Trade and in cooperation with his fellow members of the "Clapham set" set about trying to translate the committee's objectives into positive parliamentary action against the slave trade. It was a daunting task, for ranged against the abolitionists were the powerful West Indian planter interest and, following the revolutionary events in France and St Domingo, the more reactionary sections of the Tory Party. But in Wilberforce especially, the abolitionist clearly had a powerful and eloquent advocate for their cause.

A man of not inconsiderable wealth and great personal charm and integrity, he was well connected politically and socially, being a personal friend of the Prime Minister, William Pitt. Despite this, however, he remained essentially independent and as a result was able to elevate the issues of the slave trade and slavery above the level of

party politics and to invest the cause of abolition with his own considerable moral authority.

After 20 years of parliamentary debate and several unsuccessful bills, victory over the slave trade was achieved in 1807. Twenty six years later came the greatest prize of all, the ending of slavery within the British Empire.

Since 1833 the causes of the Abolition Act have been subject to much reexamination. During the first century after abolition, the anti-slavery movement was seen largely through the speeches and diaries of the abolitionist leaders themselves, notably Wilberforce. Not surprisingly, therefore, the Abolition Act was accepted as the triumph of selfless morality and humanitarianism over narrow materialism and vested interest. In the words of one of Wilberforce's biographers, Sir Reginald Coupland, the Abolition Act was "the noblest measure" in the history of the House of Commons.

More recent interpretations of abolition have been rather less generous to

Wilberforce and his friends. Some have indicated that despite his eloquence and skill in parliamentary debate, Wilberforce was rather inept at organizing votes in Parliament; the act abolishing the slave trade in 1807, often seen as Wilberforce's greatest personal achievement, was in fact guided through Parliament by James Stephens, a lesser-known abolitionist, and the Prime Minister, Lord Grenville.

Others, notably West Indian-born scholars such as C. L. R. James and Dr Eric Williams, formerly prime minister of Trinidad and Tobago, have challenged the traditional view of abolition in a more fundamental way, arguing that the origins of anti-slavery lay less in humanitarian revulsion against the system and more in the expansion of British industrial capitalism after 1783. Wedded to the new political economy of Adam Smith with its free trade ideology, the rising industrial bourgeoisie and its political allies allegedly saw slavery and the sugar monopoly associated with it as an

integral part of an over-protective and stifling mercantilist system which had to be eradicated if industrial capitalism was to flourish. In the opinion of James and Williams, economic vested interests associated with capitalism killed slavery in 1833 not disinterested evangelical humanitarianism.

Those proposing this economic explanation for abolition have found support for their argument in the declining importance of the slave-based sugar colonies in British overseas trade after 1783, the adherence of many of the non-evangelical supporters of abolition to the political economy of *laissez faire* and, most significantly of all perhaps, the juxtaposition of abolition with other major reformist measures around 1830, notably parliamentary reform and the New Poor Law, both symbols of the rising ascendancy of the industrial bourgeoisie. As might be expected, such arguments have not received universal approval, and in any case should not be allowed to deny the very real contribution of humanitarianism to abolition.

The anti-slavery campaign was initiated primarily by those such as Wilberforce who objected to slavery on moral grounds and was expanded by them into the first mass movement in British history. The fact that moral objections to slavery also came to be seen by some as making economic sense served only to make the abolitionists' challenge to the vested interests surrounding slavery ultimately irresistible.

David Richardson

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## . . . and what became of it all

the societies where slaves were freed, it might be replied: "Not much." In the West Indies, for example, abolition did not give rise to a vigorous peasant development, largely because the wrong people were compensated with the £20m set aside by Parliament for emancipation (ie a few thousand planters and not the three quarters of a million slaves).

Instead, there followed what became known as "the ordeal of free labour" and worse, what has been referred to as "a new system of slavery" in the indentured immigration of nearly half a million Indians from 1838 to 1917. That this did nothing to develop the West Indies then is a conclusion which the people of the region reap now as their government seeks, with varying degrees of failure rather than success, to overcome the bitter legacies of economic dependence, racial division, political subservience and cultural impoverishment which the plantation legacy has bequeathed them.

In another direction, however, a more promising picture emerges and the judgment of "a great deal" can be made. The rights of man, said Thomas Hardy, founder of the London Corresponding Society and champion of anti-slavery, "are not confined to this small island but are extended to the whole human race, black and white, high or low, rich or poor". In 1956 the Anti-Slavery and Aborigines Protection Society (successor to the British and Foreign Anti-Slavery Society) encompassed this sentiment in a change of name to the Anti-Slavery Society for

the Protection of Human Rights. Latterly the human rights aspect, albeit still closely associated with monitoring abusive labour systems and protection of indigenous peoples, has become more prominent in its work.

In this it both anticipated a burgeoning and concerned public opinion in recent years and followed the development of a considerable body of international law enacted since the Second World War on the subject of human rights. This latter aspect, more than any other, has given rise to a significant international consensus that national governments have an obligation to their citizens in this field.

Violations, of course, are frequent and now, more than ever, frequently denounced. Nevertheless this does not detract from the fact that in certain fundamental areas - the right to be free from fundamental violations of the integrity of the person; the right to the fulfilment of vital needs such as food, shelter, health care and education (but critically not yet the provision of work); and the right to enjoy civil and political liberties - governments recognize the validity of claims made upon them and are signatory to the various international and regional instruments "binding" them in this regard.

What William Wilberforce himself might have thought of all this 150 years on is at present the subject of informed speculation both in the city and the University of Hull. Wilberforce is perhaps Hull's most famous son and his "good works" are remembered in the city not only by his

elevated position on top of a column in the centre of town but more accessibly by the preservation of his house as a museum commemorating his life and in particular his contribution toward abolishing the slave trade. Less predictably, but in many ways more fittingly, the city has become twinned with Freetown in Sierra Leone, so promoting a continuity of past and present, albeit at a corporate level, with one of the more positive outcomes of the ending of slavery and the slave trade on the African continent.

The same link exists in the case of the University of Hull whose present chancellor, Lord Wilberforce, is a direct descendant and whose present vice-chancellor, Sir Roy Marshall, is a Barbadian and former vice-chancellor of the University of the West Indies. Unsurprisingly, in the light of this, the university's commemorative programme, in its educational aspect, has reflected on the role of Wilberforce in freeing the slaves in a series of public lectures entitled "Out of Slavery". It will consider in July, in an international conference entitled "Legacies of West Indian Slavery", the dimensions of that particular problem.

Wilberforce himself, from his tomb in Westminster Abbey, might not only have approved of such a programme but might also reflect that it is in the once prosperous fishing town of Hull that most is being done in the 150th commemorative year to celebrate the end of that more odious fishing by Britain for people on the African coast.

Paul Sutton

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## MILESTONES

Sir Harold Acton looks back at Walter Pater's collection of essays, *The Renaissance*

The library of my first school in England almost discouraged the faintest reading: those battered volumes by Henry, Rider Haggard and Captain Marryat were probably full of good meat which I might enjoy today, but at the age of 10 the mere sight of them depressed me. Unusual words appeared to me more than unusual adventures, perhaps because one of our teachers quoted a saying of Caesar's that an unusual word should be shunned as a slip should slum a reef.

Luckily a slim red volume caught my eye among the dog-eared Murphys: *The Renaissance* by Walter Pater (Macmillan's Three Shilling Library). Like a rare goldfish in a turbid pond, how had it slipped in there? I eagerly scanned the contents. There were essays on the artists I fervently admired, apart from certain personalities then unknown to me. Between lessons and organized games I read it avidly by fits and starts, fascinated by the rhythm of its prose, not all of which I could grasp at a first go. Some of the elaborate paragraphs and dependent clauses were difficult to follow, but the difficulty acted as a spur to read on in a sort of reverie.

On the first page of the preface Pater wrote: "To define beauty, not in the most abstract but in the most concrete terms possible. . . is the aim of the true student of aesthetics." This was encouraging, for I became lost in abstractions.

At the age of 10 it was too soon to speak of a "virile dramatic life". School life might be virile but it was seldom dramatic, except when a Zeppelin loomed overhead, or one was summoned to the headmaster's study for punishment. But even then one had moods of insight or intellectual excitement, as when I discovered this book - passion would come later.

Though much of Pater's writing was above my head on first acquaintance, I tried earnestly to follow his advice about burning "with a hard, gemlike flame". Of course I kept this to myself for fear of ridicule. As I lived in Florence most of the subjects of Pater's essays were already familiar to me. The city possessed three versions of Michelangelo's David: the original in the Academy and two replicas in marble outside the old town hall and in bronze on the panoramic esplanade named after the artist, besides the myriad reproductions in shop windows. The copies bore as much relation to the original as gramophone records to the performance of a great musician. How perceptive was Pater's observation of Michelangelo's concern with individual expression, "the special history of the special soul", as contrasted with the extroverted Greeks, and of Michelangelo's apparent incompleteness, which he explains as his equivalent for colour in sculpture. It is his way of idealizing pure form, of relieving its stiff realism, and communicating to it breath, pulsation, the effect of life.

I have read these essays so often in the last 60 years that they must have melted into my subconscious and the pristine freshness of the three shilling volume has evaporated. The purplest passages, such as the rhapsody on the Mona Lisa, which W. B. Yeats printed as a prose-poem in his edition of *The Oxford Book of English Verse*, have faded to pale mauve from excessive quotation, but the underlying message prevails; we should constantly test new opinions and court new impressions, "never acquiescing in a facile orthodoxy". We should select and treasure those impressions whose singular beauty has delighted us, appealing to our "imaginative reason" through the senses.

Without any claim to scientific expertise Pater understood intuitively that Giorgione's pictures are, as Bernard Berenson was to write, "the perfect reflex of the Renaissance at its height". In his appreciation of *The School of Giorgione* he underlined the conclusion that "all art constantly aspires towards the condition of

music", and his book seems to have been designed like a sonata: *adagio, andante, nuntando, adagio molto* expressive, etc. without an *allegro*, however, though it is not melancholy. There is a gradual ascent towards the high peaks of Michelangelo, Leonardo, and Giorgione and a gradual glissade towards the flume of Wincelmann. Yet the last essay on Wincelmann is in fact the earliest of Pater's writings on aesthetic theory and the climactic essay on *The School of Giorgione* was added later. Here he seems to have been writing about himself, for he suggests far more than he states in his unadorned paragraphs. As a schoolboy I could only guess at what I failed to grasp: I was thrilled by the words I had to look up in the dictionary. On the other hand certain epithets - dainty, comely, quaint - recurred a touch too often for my taste.

The essay on Leonardo is assuredly the finest ever written about that genius, yet the reputation of "strange" on almost every page is a bit misleading. True, Leonardo's manuscripts were written strangely from right to left and no doubt he offered to tell Ludovico Sforza "strange secrets in the art of war", but in his rhapsody about the Mona Lisa it seemed anachronistic to picture that lady "trifling in strange webs with eastern merchants" like a tourist bargaining for carpets in an oriental bazaar. For all that Pater's style was magically effective. Dealing with art, it was suitably artificial. The style of James Joyce's *Ulysses* is equally artificial, though it is not concerned with art. Owing to Pater's *fin-de-siècle* originality of his style, that sensuous flowering of an austere fellow of Brasenose College, Oxford. At present it is out of fashion, but as I said of George Moore, who wrote: "In the pages of Pater, the English language lies in state." However, *The Renaissance* went through some 23 editions after its publication in 1873.

In his essay on Botticelli, Pater expressed surprise that this artist was the only contemporary mentioned by name in Leonardo's treatise on painting. Was this due to chance, he wondered, or to deliberate judgment? Furthermore he asked: "Is a painter like Botticelli - a secondary painter, a proper subject for general criticism?" The pre-Raphaelites had begun to discover his charm; Ruskin had applauded him; and Swinburne had praised his drawings in the *Artists' Club* (in 1868); yet apparently Botticelli was still "comparatively unknown". It was Pater's lyrical essay that launched his vogue in late Victorian society - a vogue that was mocked by George du Maurier in *Punch*. Some 30 years later Bernard Berenson described Botticelli as "the greatest artist in local design that Europe has ever had", and Herbert Horne's magisterial monograph, published in 1908, was dedicated to the Oxford don whose interpretation of the artist as a link between Christianity and Renaissance paganism stamped his image on succeeding generations. Pater's essay on Botticelli concludes: "He has the freshness, the uncertain and diffident promise, which belong to the earlier Renaissance itself, and make it perhaps the most interesting period in the history of the mind."

Now that art criticism is being swamped by statistics and computer archives we need Pater to remind us that feeling and imagination are essential facets of so art critic's constitution. His importance for me was his message that "the principle of beauty in all things" is protean. We may find it in various ages and forms, in India, China and Egypt, as well as in Italy and Greece. Oscar Wilde paraphrased this when he wrote: "All beautiful things belong to the same age."

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Technical education in England in the early 1870s was weak and badly organized despite the efforts of the Government's Science and Art Department, which had been set up in 1833 to promote the spread of scientific instruction. The department's own syllabuses were widely condemned as too theoretical to be of direct use to industry, while many of those who supported its work openly argued that it was no part of their function to promote instruction related to specific trades or manufacturing processes.

It was in these unsatisfactory circumstances that some of the London Livery Companies began to turn their attention to the issue of technical education. Already concern was being expressed that the guilds, which had once been involved among other things with the apprenticeship and training of artisans, were no longer using their vast funds to fulfil that role. This view was put forcibly by William Gladstone in November 1875. "What was the object for which those companies are founded? Do you suppose they are founded for the purpose of having dinners once a year, once a quarter, or once a month? . . . Nothing of the kind. . . These companies were founded for the purpose of developing the crafts, trades, or 'mysteries', as they were called," he said. And in a private conversation with the Lord Mayor of London he made it clear that in the long run he intended to find the necessary cash to promote technical instruction from what he regarded as the most appropriate source - the City of London Guilds.

As early as 1872 the masters and wardens of some of the leading companies had formed a committee to consider what contribution they could make to the growth of technical education, and a number of individual companies, including the clothworkers, were already making grants to technical institutions in the provinces. But it was not until November 1878 that the decision was finally taken to establish a specialist organization to coordinate these activities under the title of the City and Guilds of London Institute for the Advancement of Technical Education. Two years later it was formally incorporated under the 1862 Companies Act and in 1900 it received a Royal Charter in recognition of its pioneering work in the technical field.

Meanwhile the City and Guilds had set itself four prime objectives: to conduct a series of examinations in technical subjects (an ambition it began to realize from 1879); to promote trade schools in London and the provinces; to make grants to existing technical institutions; and finally to set up a central institution in London which would offer a new and more advanced level of technical education, along the lines offered by the polytechnics of Germany and Switzerland, and by the Massachusetts Institute of Technology in the United States.

It was opened at South Kensington in June 1884, with three quarters of its construction costs met by the City and Guilds itself. It aimed to cater for those intending to become either technical teachers or the leaders of industry. Some scholarships were to be offered to the organizing director, Philip Magnus, envisaged that most students would be the sons of gentlemen. Day-time courses were arranged, to run for three years, and fees were set at £30 per annum. Entrance examinations were held of a standard equal to that of the London matriculation, though including fewer subjects, and there were three departments of study - civil and mechanical engineering, electrical engineering and chemical engineering, as well as a department of mathematics to serve the other three. Four professors were appointed - each eminent in his own field and each receiving in 1887, the substantial salary of £1,000 a year.

Day classes commenced in February 1885 with a mere six students, one of them a woman who gained a diploma in chemistry in 1887 and later became a teacher in the North London Collegiate School for Girls. Three of the other pioneers were also to gain the BSc degree of London University.

Nevertheless, despite this small beginning, the sixth annual report of the City and Guilds Institute proudly proclaimed the progress made. "In the first time, an institution which is comparable with, and in some respects superior to a German Polytechnic School. Erected at less than a third of the cost of the Technical High School at Berlin. It is replete with all the

## Nuts and bolts of technical training

Pamela Horn traces the history of the City and Guilds of London Institute up to 1914



appliances for the education of technical teachers and of persons who are training with the view of becoming . . . Engineers, or Master Builders, or of taking the management of works in connection with any of our great Chemical and other manufacturing industries."

Such eulogies could not hide the fact, however, that support for the institution was slow in developing. By 1887-88 there were still only 122 day students in attendance, plus almost 500 studying in the evening on special courses. Soon statements began to appear in the press and elsewhere, claiming that the whole venture was a costly white elephant. One of the Livery Company leaders even claimed that it was being run "chiefly for the advantage of the professors", rather than the students - a charge the City and Guilds quickly refuted, declaring loftily that its aim was to provide "the scientific culture of the leaders of industry".

The Times also referred in the spring of 1887 to its "so-called meagre success", which it blamed on the inconvenient location at South Kensington and, more importantly, upon the stringent entrance examination, which had a marked effect in keeping down the numbers. It called for standards to be lowered in an attempt to increase the institution's popularity. Philip Magnus, the City and Guilds organizing director, angrily replied that the main aim of the entrance examination was to raise the standard of science teaching in the public schools. He blamed the limited number of day students on general indifference towards advanced education in this sphere. "Of the need of higher scientific technical education Englishmen are not yet fully convinced," he wrote.

Over time, some of these teething troubles were overcome, with entrance requirements becoming less rigid, though still remaining above the level of those demanded by any other English university or university college. By 1894-95 the number of full-time students had reached 208, of whom 46 percent were on electrical engineering courses; 31.3 were involved with civil and mechanical engineering; 9.1 were studying chemistry; and the remainder were on "special" courses. But even at that stage criticisms continued, with an anonymous pamphlet circulating in the mid-1890s under the title "Is the Central College a Failure?" The charges of wasteful expenditure it raised and its inaccuracies were easily dealt with by the City and Guilds, but it is clear that concern was felt at the slow progress being made, especially compared to developments in Europe and the United States. In order to emphasize the educational and technical role more clearly, therefore, in 1893 its name was changed to the Central Technical College.

In the meantime, in academic circles the reputation of the Central was growing, particularly in the field of engineering. In 1900, following the reorganization of the University of London, it was appointed one of the

four schools of the newly created faculty of engineering. Seven years later, when Imperial College was set up, it became one of the three constituent colleges in that body, specializing in engineering. In the rationalization process which followed, its chemistry and mathematics departments were halved off to the Royal College of Science, another of the constituent colleges of Imperial. Those students already at the Central were allowed to complete their courses and by 1914, when the department was finally closed, only four degree students remained.

But in engineering, between 1903 and 1913 it retained a clear lead over all the other colleges of London University, providing 235 of the 520 internal degrees conferred by the university in that subject; 170 of these were at honours level, compared to 173 from all the other colleges of the university at this standard. Alongside that, the college continued its policy of awarding its own diploma, and in the year ending July 1913 there were 84 of these issued as well.

Nevertheless, if the Central College had achieved success in engineering by the end of the century, it had scarcely proved the trail blazing institution which its founders had envisaged. For these were several reasons. The first and most important was the continuing scepticism in British industry of the value of the courses it was offering, in indeed of higher education generally in the field of technology. There was still a firm belief in the value of "learning on the job".

Another problem was that "technical" education was thought of as something for the artisan rather than the captain of industry. Yet, the Central had aimed its courses at future management leaders.

Thirdly, its adoption of a broad "general" training did not find favour with those who preferred a more specialized approach. Thus every student had to follow a course in chemistry in their first year, whether they were intending to concentrate on chemistry or not, while each member of the chemistry department was expected to gain knowledge in mechanics and physics. Not all students saw the merit of this approach, and that, too, helped to keep numbers low.

Attempts to experiment with the length of course offered were limited by established university practice. Formally, a century before the four-year course for an engineering qualification of the highest order had been finally accepted, the professors of chemistry and electrical engineering at the Central were advocating just that. The former at least had been influenced by his experiences in the German educational system, but his arguments were rejected primarily because the three-year degree pattern was already firmly installed in Britain. It was, therefore, as a constituent part of Imperial that the Central (or the City and Guilds College of Engineering, as it became) was to achieve its greatest success.

As for the students, Philip Magnus had expressed the view in 1885 that after completing a three-year course at the Central and a further two years' apprenticeship in a workshop, the qualified man "would be ready to commence work at a salary of, say £150 per annum. How he progressed after that point would depend . . . entirely on himself". Among those who fulfilled Magnus's brighter hopes was H. A. Humphrey, who entered the mechanical engineering department in October 1885 and within a decade had become engineering manager for the major chemical company of Brunner Mond. He was elected the first Fellow of the City and Guilds in 1893 and during the First World War was largely responsible for the provision of explosives.

"Originally," as the historian of the City and Guilds points out, "the College had produced science teachers as the most urgent requirement, but it went on to provide trained personnel for direct service in industry at home and even more so abroad" - in India, Africa and the far flung corners of the Empire. Professor Armstrong, the first professor of chemistry, declared: "Throughout the engineering world the diploma of the City and Guilds of London Institute is accepted as proof that the bearer's qualifications are unquestionable". No one disputed the truth of that assertion, either in his own day or later.

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Agriculture is a complex set of interrelated inventions. It is a necessary, but not of itself sufficient, condition for civilization. No gatherers, hunters or herdsmen ever made a civilization, even though hunting and stock-keeping may form peripheral components of one. Crops, in short, are central: man can live on them alone and many people in the world in fact do.

In the rich northern countries we tend to have lost sight of these notions. We use a substantial part of our agricultural resource in feeding stock, rather inefficiently: some 80-90 percent of the food value of crops fed to stock is unavoidably wasted. Animals, as adjuncts to agriculture, have their uses (as scavengers, for dung, for special products such as wool and skins) but they are secondary.

As populations grow and press ever harder upon limited land and energy resources, so must our direct dependence upon crops, directly utilized as such, grow. Even in the rich north, an increasing dependence upon vegetable food and a decline in stock rearing seem certain. It can be done, as both history and modern experience show, and, under the inevitable demographic and economic pressures, no doubt it will be done.

My object is not to knock stock raising but simply to establish the fundamental importance, for civilization, indeed for survival, of crops. They are the crucial invention of agriculture. Without them, with only wild plants as subjects, all the other inventions of digging, ploughing, hoeing, fertilizing and so on would be, at best, unrewarding.

Without the other, complementary inventions crops would be virtually useless because they are, in general, wholly dependent upon human care and skill for survival.

Crops and wild plants are different, even if demonstrably related. Very few wild plants are any use in cultivation: Most are the wrong size or shape, they are poisonous, ill-tasting, prickly, non-hardy, or they shed their seeds or whatever. By contrast, their cultivated relatives have, in varying degrees, the characters that the cultivator and consumer desire but the plants are lost in the wild; they are quite unfitted for normal survival.

Darwin and his contemporaries knew all this well enough and Darwin thought that cultivated plants and animals offered a sort of microcosm of natural evolution. He was, of course, quite right. Our cultivars have evolved by the same processes that occur in the wild: development of genetic variation (which is omnipresent); genetic recombination, giving new variants; selection, implying not death-or-survival, but differential reproduction of the favoured variants; and isolation of the products, so that the new variants breed true (or true enough), minimally contaminated by genetic material from their less favoured predecessors.

But there is one difference: to Darwinian natural selection has been added artificial or human selection and also semi-natural selection inherent in the agricultural environment.

We can add one other element, unknown to science in Darwin's time, namely polyploidy. All animals and many plants are diploid: they have two sets of chromosomes. Many other plants are polyploid, having four, six, eight (sometimes three, five, seven) sets of chromosomes. Polyploidy, as it has been known now for some 60 years, is an important evolutionary resource among plants, permitting the immediate stabilization of interspecific hybrids (vegetable mules, one might say) that would otherwise have failed to survive. And, to repeat a point made above, the processes of crop evolution were (and are) neo-Darwinian evolution on the micro-scale.

The general principles just outlined are universal, which is why I treated them first. The details, crop by crop (so far as we know them) vary very greatly, which is hardly surprising because crops are diverse. There are about 250,000 higher plant species on earth. There are 200-300 crops (depending on interests and definitions) of which maybe 100 are economically significant, 20 are really important and 10 feed most of mankind. They are spread over a great range of plant families, reflecting the diversity of man's environments and of his needs for food, feed, fibre, drugs, stimulants, dyes, dyes, timber, fuel and industrial products (such as rubber and insecticides). It is true, though, that they are spread unevenly. A few families such as the Gramineae (grasses, cereals) and Solanaceae (potatoes, peppers, tomatoes, tobacco etc) are especially productive of crops and many minor families are unrepresented.

Many crops are (unlike those mentioned above) comparatively primitive in that they are but little removed from the wild; thus forest trees are only just starting to make the transition to being cultivars, as forest starts to take the inevitable steps from gathering the wild plants through primitive cultivation to becoming a specialized branch of agriculture.

This prompts the question: if we have lots of primitive crops which have

## Sowing the seeds of change

Norman Simmonds on the evolution of crop plants

Top: maize breeders at work in Iowa, USA. Hybrid maize is one of the many spectacular successes of plant breeding. Right: the wild source of a crop. Two species of bananas growing as "jungle weeds" in secondary bush in Malaysia



of the high Andes, weedy (like the wheat) but perennial, with long tubers (stolons) and bumpy, ugly little tubers that are bitter to the taste, toxic if eaten in moderation and lethal if eaten in quantity. Their cultivated descendants are mostly tetraploid, with neat clusters of smooth, shapely, large and highly nutritious tubers. Biologically it is one of the most efficient of all our crops (as Frederick the Great and the captains of the Industrial Revolution recognized) and it is grown from high latitudes down to the tropics at middle elevations.

Maize, like barley, remained a diploid (with 2 x 10 = 20 chromosomes) but so changed it that we are not even certain what its ancestor was: probably, something like the contemporary teosinte (*Euchlaena*) of Central America, a tillering grass with an open, terminal inflorescence and small husked seeds, quite unlike maize, with its single stalk, its huge lateral cob and large naked seeds. From its origin in the neotropics at middle altitudes, maize is now grown nearly everywhere that agriculture is practised but reaches by far its greatest importance as a temperate-summer crop.

These examples (which are chosen but are quite characteristic) must suffice to make the point. Crops are profoundly altered from wild plants in genetic constitution and the alterations are reflected in the ecology and morphology of the plants and the chemistry and edibility of the products, changes which collectively adapt the plants to the requirements of farmer and consumer. And, to repeat a point made above, the processes of crop evolution were (and are) neo-Darwinian evolution on the micro-scale.

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This prompts the question: if we have lots of primitive crops which have

not yet been pushed hard enough to become greatly changed in cultivation, what of the 250,000 or so wild species which have never been cultivated at all? Very many valuable plants await only imagination and energy to turn them into crops.

Consider rubber (*Hevea*) and the African oil palm (*Elaeis*), both major crops: a century ago they were wild plants in, respectively, Amazonia and tropical west Africa, gathered but uncultivated. The economic pull of tyres and margarine brought them out and in mere 100 years of competent agricultural research was enough to convert them into highly efficient cultivars. There must be thousands of other species of like potential (especially perhaps of oil-bearing and drug-yielding plants) which have been recognized but the human effort that goes into developing new crops is pathetic in relation to both the potential and to the rate of destruction of the natural sources. Hence the importance, now at least dimly recognized, of genetic resource conservation. All is not yet lost but an awful lot surely will be.

The oldest known domestications are of barley, wheat and peas in the area around the eastern Mediterranean and eastwards of it. These can be dated on archaeological evidence, from about 9000 BC and it is clear that settled cultivations and crops here emerged together, each dependent on the other. Rice in the Indo-Chinese region and maize, beans and cucurbit in tropical America emerged, on present evidence, a little later. But archaeology may well push these dates back and it is a fair assumption that settled agriculture and therefore crop domestication were more or less contemporaneous in several widely separated sites.

Forty years ago, there was a general view that crops evolved in a limited number of "centres of origin"; that view has gone, replaced by a diffuse-continuum view, with crops originating and evolving everywhere that agriculture is practised - which means virtually everywhere except extreme deserts, mountains and tundra.

This view, of course, by no means abandons the notion that each crop has its own history, referable ultimately to a particular area of the world: bananas, sugar cane and coconuts undoubtedly came from South East Asia; the yams originated as cultivars in tropical Asia, Africa and America independently; some cottons are Afro-Asian, others are tropical American; cassava, groundnuts and pineapples are lowland tropical American; while the potato is tropical Andean, sorghum and oil palm are west African, *arabica* coffee is east African; and so on.

The continuum view of place of origin is matched by a similar view of time scale. Some crops are ancient, others are suspected also to be so; others, again, are known to be recent (eg the sweet potato, which originated in Europe about 200-300 years ago and the oil palm and rubber referred to above); others, too, are only now being domesticated or yet await discovery. New origins, indeed, have been con-

these processes can still be seen in tropical peasant agricultures, though long since gone from our technology-based agriculture.

With us, the intuitive or unconscious evolutionary activities of the small farm have been replaced by the science-based activities of the professional plant breeder. Plant breeding is not a science; it is a science-based technology and a highly effective one, too. The plant breeder can be thought of as an applied evolutionist and, in his hands, our crops are probably improving (plant breeding is a wholly benign technology) faster than ever before.

But many of the major steps were taken millennia before plant breeding was heard of and the peasant and plant breeder are both evolutionists: their activities are not fundamentally different, even though the latter can call on genetics and diverse other sciences to help him to accelerate progress. The answer to who did it and how is, therefore, simply: all sorts of people from small farmers to professors. And their methods are fundamentally evolutionary.

Our crops will go on evolving, increasingly in the hands of professionals rather than of peasants, as technology-based agriculture spreads. New crops will be developed, some old ones will disappear; the cultivars of decades hence will be different from those of today (as contemporary cultivars in Europe are mostly different from those of 50 years ago). Some people will regret the spread of technology-based agricultures among what are now peasant societies. But one does not have to be devoted to the "technological fix" to recognize that the only chance that those peasants' descendants will have of eating adequately lies in the sensible application of agricultural research: research on the crop's environment and upon the genetic structure of the crop itself. In the contemporary phase of crop evolution, in the hands of the plant breeders, lies a substantial part of such chance as we have of averting starvation for a great many people.

Who did it and how? Until about 100 years ago all domestication and evolution was the work of farmers and their families, picking those variants that were better to grow, easier to prepare as food and nicer to eat than the other ones; exchanging seeds or planting material with neighbours or visitors; inevitably promoting crossing and therefore the origin of new variants by planting mixtures of this and that.

The author recently retired from the Edinburgh School of Agriculture. He is an honorary professor in the University of Edinburgh.

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## BOOKS

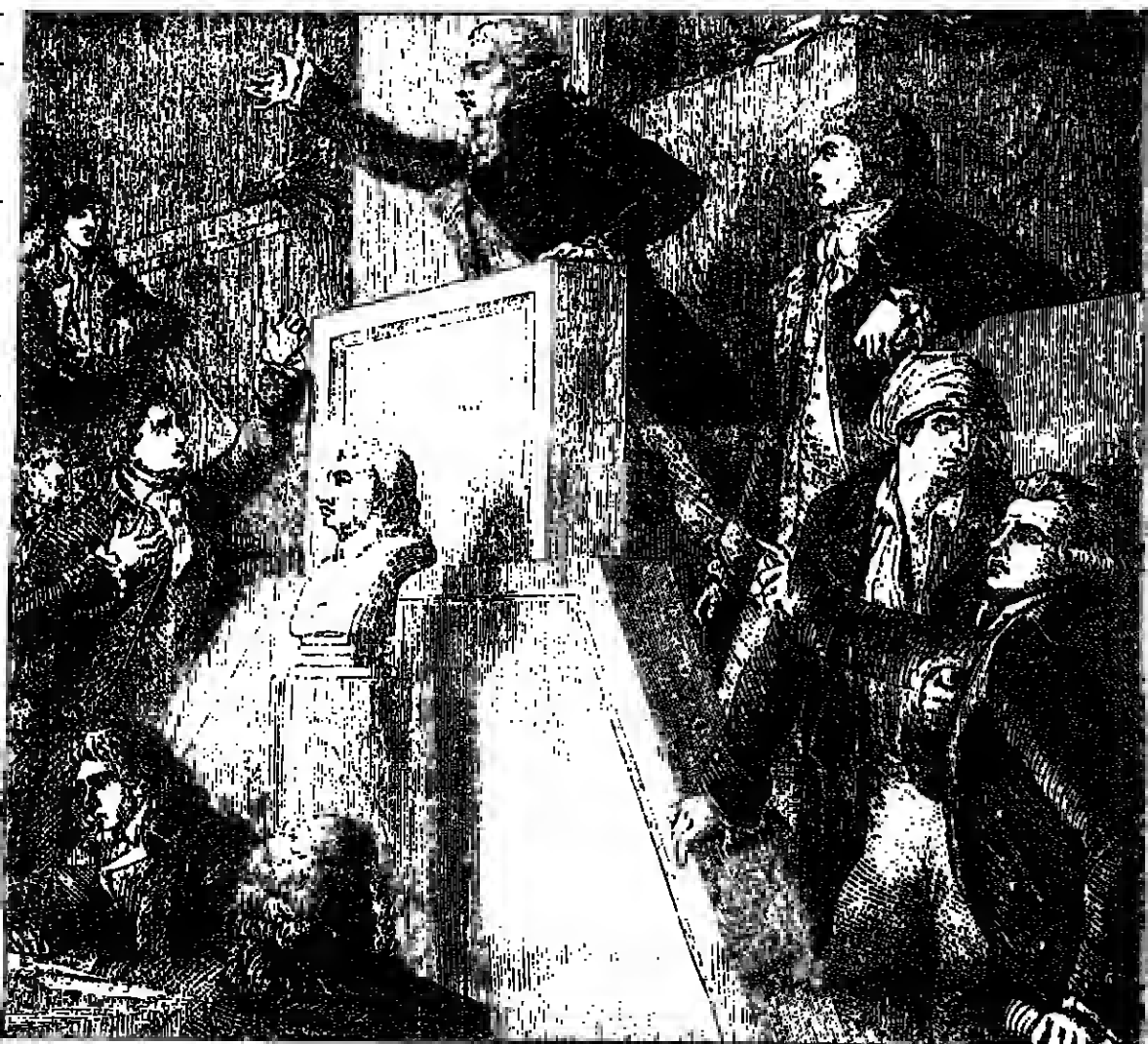
## The mental world of revolution

by William Doyle

Willard Circumstances Montesquieu, Rousseau and the French Revolution by Norman Hampson Duckworth, £19.50 ISBN 0 7156 1697 8

Norman Hampson must be one of the most influential historians of his generation. If we want to learn about our own national history we can choose from an impressive range of reliable introductions to almost any period that interests us. Nobody can claim to have written the obvious book. But if our interests lie abroad there is far less choice, and here Norman Hampson can claim to have written two of the obvious books.

Those of us who took our finals in 1964 were fortunate that his *Social History of the French Revolution* had appeared the previous autumn. It became our bible, and after twenty years it is still perhaps the best introduction in any language. That is why it has been translated into Italian, Spanish and Portuguese. Then in 1968 he produced his Pelican volume on *The Enlightenment*, and no longer were students forced to grapple with the floridities of Paul Hazard or the turgid ponderousness of Ernst Cassirer in the search for an introduction (or eighteenth-century thought). Not surprisingly, this too has been widely translated, even into French. As they advance in their study of the eighteenth century, students will no doubt continue to fall under the spell of Alfred Cobban's iconoclasm, Peter Gay's or Robert Palmer's syntheses, or Richard Cobb's style. But half the world these days makes its first acquaintance with the Enlightenment and the French Revolution through the eyes of Norman Hampson.



A meeting of the National Assembly.

the first of eighteen volumes in the *John Rylands Library in Manchester* with the unimpressive title of *Recueil des pièces imprimées pour servir à l'histoire de la Révolution en France*.

This is an important collection of pamphlets which throws particular light on the intellectual atmosphere of the so-called "pre-revolution". What Hampson found was that the authors of these pamphlets were saturated in Montesquieu and Rousseau. They may not have understood the subtleties of their thought. They often completely overlooked the contradictions between them. But they spoke their words, adopted their concepts, and appealed to their authority at every turn. Any account of the French Revolution which took no account of this mental world upon which the crisis was to break would never get to the heart of matters. This was the message of an article buried in the worthy but obscure pages of the *Bulletin* at the John Rylands Library in 1964.

Few people seem to have read it; and although the message was repeated in broader terms in the opening chapter of *The First European Revolution* (1969) nobody seems to have asked if this was still the Hampson of the *Social History*. Nor did his next two books offer any clues to his changing preoccupations. *The Life and Opinions of Maximilien Robespierre* (1974), his most brilliant and original work, was as much about the problems of writing history and biography as about Robespierre. Here indeed was a man of ostentatious intellectual convictions, and few would deny that they mattered desperately to thousands of Frenchmen who suffered their consequences in the Year II. But maybe he was a special case; whether you think him a noble idealist or a madman, the incorruptible guarantor of national purity, he was *not* generic, and typified nothing. Then with *Danton* (1973) Hampson took on a character who emerged from his portrait with no obvious convictions at all - a slippery machine politician who could snuff power from any distance and would profess any belief that seemed advantageous at the time. Nevertheless, contributions to the *Revue de la Révolution* showed that the biographer was still fascinated by the intellectual history of the revolution; and his contribution to *The Enlightenment in National Context* (1981) offered

a full-scale trailer for the new book.

As in all his works, he disclaims any pretension to have identified the revolution's essentials. But since "the most superficial glance at what was being written in the 1780s showed that everyone drew his inspiration from Montesquieu or Rousseau or, more often, from both" (page viii) the question of where this inspiration led later revolutionaries is evidently a fundamental one. He begins with a brief epitome of the political thought of Montesquieu and Rousseau. Montesquieu, whom he clearly loves for his moderation, hesitations and endearing inconsistencies, is the prophet of circumstance. Political arrangements have to obey the moral law, but chiefly they have to be appropriate to the society for which they are devised. Rousseau, the prophet of will: of course political arrangements have to be appropriate, but men can change what makes them appropriate in accordance with the dictates of the moral law. Hampson does not love Rousseau, but he can see why men of the eighteenth century were inspired by him, and cannot help admiring his literary powers.

It is this sympathetic imagination that distinguishes his analysis from the otherwise very similar approach of J. L. Talmon. Talmon's great polemic against political messianism in the revolution, *The Origins of Totalitarian Democracy*, has sold well since its first appearance 31 years ago, despite the scorn of historians convinced that ideas influenced nobody unless they were rationalizations of deeper social forces. This is a tribute to the public's common sense, a quality always evident. In Norman Hampson's writings too, and although he is not concerned, as Talmon was, to blame the evils of our own day on eighteenth-century theorists, he shows the same conviction that ideas influence men for intellectual reasons, and do affect the way they react to their circumstances. *Will and Circumstance* is about how men stepped in Montesquieu and Rousseau reacted to the dizzy extraordinary circumstances of the 1790s.

Most men are beyond the historian's reach. But a few wrote, or said, enough both before and during the revolution for the development of their attitudes to be clearly plotted. The first half of

the book, therefore, is an analysis of the pre-1789 careers and writings of Mercier, Brissot, Marat and Robespierre. Three were literary hacks with pretensions beyond their capabilities. Robespierre was a modest provincial lawyer with literary leanings. All of them had swallowed great chunks of Montesquieu and Rousseau, and all had had digestive problems with them. They were in any case below the level of practical politics, so their opinions were of little consequence. But the political crisis that broke in the late 1780s opened public affairs to everybody, and these drifters and dreamers suddenly found they might have a say in what was to be done. Only Mercier missed the opportunity. He did eventually get into the Convention, but he played no conspicuous role there, and though arrested as a Girondin he was not thought important enough to execute. He continued to write, but as before 1789 seems to have found what he had to say less important than the fact that he was saying it. This was Marat's attitude too, but the blood-thirstiness of his style eventually got him noticed. And Brissot, Robespierre and one ideologist too young to have had a pre-revolutionary career, Saint-Just, became men of great importance in the circumstances of the revolution. As the second half of the book shows, they found Montesquieu and Rousseau bottomless quarries for ideas to justify what circumstances forced them to do. And these ideas, adopted by men now powerful, in turn helped to mould the circumstances themselves.

Montesquieu taught that viable political systems must be based on an underlying consensus. Rousseau did not dispute that. But whereas Montesquieu believed that the consensus, the *esprit général*, was the product of multifarious forces some of which were beyond human agency, Rousseau taught that a consensus could be created. After all, the general will of any community was always for the best and never wrong, so it was simply a matter of identifying it and then implementing it. The circumstances of the French Revolution forced the disciples of the two philosophers to choose between a victory for Rousseau over Montesquieu, or for after the first few euphoric months it became clear that the revolution rested on no underlying consensus. Yet there was, of course,

no question of unscrambling what had been achieved. In this situation Montesquieu offered little guidance about what to do. Rousseau, on the other hand, had a prescription that suited everybody: consult the general will. But since the general will was not the same as the will of all, or even of the majority, this prescription was a licence to discount any viewpoint opposed to one's own. And since the viewpoint of revolutionary politicians depended often on whether they were in office or not, they found themselves ascribing to the general will at one moment what they declared was totally against it at another. This is graphically illustrated in an appendix where Hampson juxtaposes similar quotations from Brissot and Robespierre on a whole range of central revolutionary issues. Most historiography has portrayed these two as sworn ideological enemies. Now we are reminded that, thanks to their common intellectual background, they reacted to political circumstances in much the same terms. What always divided them was power rather than principle.

The strength of this book is that the author has carefully read all the writings of the men he is studying. He knows what they said, and is not content to repeat what others have said they said. Most historians, confronted by the acres of windy and repulsive rhetoric favoured by the French revolutionaries, are only too glad to accept the selective quotations served up by partial interpreters. As a result they are usually ready to believe that the actors in this great drama were more consistent than they were, or could even hope to be. This is not to say that they scorned consistency. Robespierre and Saint-Just in particular went to elaborate lengths to rescue fixed principles from the surging tides of political exigencies. But they could not do it without lethal mental acrobatics, and the virtue of a textually comprehensive approach like this one is to underline just how acrobatic they really were. The only one among Hampson's sample who remained remotely near consistency was Marat. This is because he was a half-mad charlatan who never got within reach of political power. Long-ovate doubt is even thrown on Marat's supposed influence. He himself, after all, was always claiming that nobody listened to him, and perhaps nobody in power did until he was taken up as a martyr to Girondin vindictiveness in the spring of 1793, only weeks before his martyrdom became real rather than metaphorical. Marat's true contribution to the revolution lay not in his ideas but in his style. Among men given readily to hyperbole, he outdid them all. His consistency lay in outbidding the competition; as he told Robespierre, his influence depended on his vehemence. But what he expressed so vehemently and ferociously was something that all the characters analysed here believed, and had imbibed largely from Rousseau. Politics was about morality, and republican politics were about virtue. Those who believed themselves true republicans therefore believed they embodied virtue, and this justified any measures they thought necessary against their opponents. Thus conscience made tyrants of them all.

This was also, of course, the view of Talmon. He deplored the French revolutionaries as the first exemplars of tyrannical doublethink. Those who reject him because he condemned revolutionary heroes will reject Hampson too, and shake their heads at his abandonment of social history. But those who want to know what Mercier, Brissot and Marat wrote will find these pages a fair introduction. Robespierre and Saint-Just need none, but nobody with an open mind will find the treatment of them less than stimulating. A debate has been reopened; and by a historian of the highest credentials. This alone ensures that his ideas will not be shrugged off the way Talmon's were.

William Doyle is professor of modern history at the University of Nottingham.

## BOOKS

## Workers' scope for action

The Development of the Labour Process in Capitalist Societies by Craig R. Litterer Heinemann Educational, £14.50 and £5.50 ISBN 0 435 82540 2 and 825410 Social Class and the Division of Labour: essays in honour of Ilya Neustadt edited by Anthony Giddens and Gavin MacKenzie Cambridge University Press, £20.00 and £6.50 ISBN 0 521 24597 4 and 28809 6

In *The Development of the Labour Process in Capitalist Societies* Craig Litterer soberly reassesses the bundle of ideas about the transformation of the division of labour which have been the leitmotif of the lively debate following Henry Braverman's *Labor and Monopoly Capital*. He presents a shrewd and originally researched account of the historical development of labour control in late nineteenth and early twentieth-century Britain; an interesting if cursory comparative look at Japan and the USA; and above all a highly thoughtful analysis.

He makes imaginative use of Weberian bureaucracy theory to criticize Braverman for confusing changes in work with the rationalization of organizations, and he demonstrates how many other writers on the labour process have conflated several quite separate dimensions within the notion of skill. This is a necessary corrective to recent glib generalizations about changes in the control and organization of work.

Several of the contributions to Giddens and MacKenzie's book similarly reflect the scepticism which has inevitably followed the acclaim accorded to Braverman's work. This volume is a testimonial to mark the retirement from his chair in sociology at the University of Leicester of Ilya Neustadt. All the contributors have at some time been members of his department, and the book is a useful reminder of the strength of Leicester sociology.

Neustadt's main interest is in the division of labour and its relationship to social class, an area centrally involved in the labour process debate. One of the main criticisms made here, as by Litterer, of this literature is its neglect of the scope for an active response by workers. Both the editors make this point in their own papers, and Graeme Salaman draws attention to the fact that Braverman treats managers as well as workers as automatons.

After the determinism of structuralist theory a new emphasis on actors' scope for action is emerging, though founded not as previously on an obsession with consciousness but on a realistic appraisal of the scope for autonomy left by spaces in social structures. Giddens does a particularly good job here, considering the possibilities open even to almost powerless groups. David Lockwood's contribution, while not contradicting this logic, provides a more interesting counterweight. Picking up that famous footnote in Durkheim's *Suicide* about fatalism, he considers the importance of the sheer immovable weight of existing institutions as a constraint on incipient dissent. Potentially, he says, this provides the basis for a theory of order different from that rooted in value consensus that became Durkheim's chief legacy.

Determinist theories of class location developed by structuralist Marxists also receive short shrift in this volume. As emerges from MacKenzie's witty but substantial paper, the occupational categories currently growing most rapidly are those which the theorists have most difficulty determining. This has indeed become a problem for all class theories. No general theory emerges from this book, but several authors help lay the foundations for a future one. Richard Brown draws together the threads of recent research, adding several of his own, which demonstrate the relevance of individuals' work histories, a dimension overlooked by conventional synchronic class analysis. Ilya Neustadt provides a valuable account of the distinctive position of his unfortunately named "service class". Sheila Allen ventilates the single biggest problem of class analysis: the failure to accommodate women. But it really is time the writers on this topic went beyond merely complaining about its neglect.

Away from this central question of identifying class boundaries, other contributors to this meaty volume tackle different major issues. John Scott provides an excellent analysis of power and property in corporations. Geoffrey Ingham demonstrates that the "problem" of the City of London has been, not so much its overseas preoccupations, as its commercial orientation. Terry Johnson's account of the role of the state, especially the imperial state, in the development of the English professions must rank as the most original contribution on the professions for some time. And Paul Hirst displays more good sense and realism on incomes policy than anyone currently contributing to national political debate.

Collin Crouch

Collin Crouch is reader in sociology at the London School of Economics.

## Means of control

Managerial Prerogative and the Question of Control by John Storey Routledge & Kegan Paul, £7.95 ISBN 0 7100 9203 2

For many industrial sociologists both in Europe and the United States, Harry Braverman's *Labor and Monopoly Capital* established the research agenda for the 1970s.

Building upon Marx's thesis that the development of capitalism would be associated with a shift from the formal to the real subordination of labour, Braverman claimed to have revealed the inner logic of managerial strategies. This led inexorably, he claimed, to the deskilling of the workforce (both manual and non-manual) and to relentlessly tightening managerial control over the work process. Simply formulated, powerfully presented, and, apparently, with a vast range of application, Braverman's work appeared to many to hold the key for a renewal of thought in an area that lay at the very core of Marxism as a theoretical structure.

John Storey has given us what is in effect a survey of the present state of play in the Braverman debate. While there is not perhaps a great deal that will surprise specialists in the field, he has synthesized ably the literature in a form that is accessible to students and he dissects in a clear way some of the false assumptions upon which Braverman's analysis rested.

After emphasizing the need to take account of the way in which managerial control strategies may be affected by the wider economic and political environment, Storey turns to the central point of his discussion - Braverman's conception of managerial strategies of control. In the first place, he points out that the empirical evidence casts doubt on whether management thinking in this sphere is sufficiently coherent even to merit description as a strategy. Second, and most critically, he argues that empirical studies of modes of control reveal not the growing dominance of any one system of control but rather the co-existence of very varied systems. Braverman, then, adopted an over-rational image of management and he uncritically accepted the precepts of Taylorism - with their emphasis on the simplification, deskilling and tighter direct supervision of work - as a guide to the way in which management effectively operated. In reality, modes of control range from cases that approximate to the model of Taylorism to very different systems in which control is exercised more subtly through "human relations" strategies, the development of quasi-autonomous work groups, or the building in of control into the very design of the technology.

Storey is sceptical about the possibility

that any one mode will ultimately prevail. Control strategies, he suggests, are bedevilled by the fact that they must cope with an inherent conflict in management objectives. Capitalist employers want a more submissive and predictable workforce, but, at the same time, they require workers to use their initiative.

Much of Storey's argument here involves an implicit and long-due appeal to explore the relevance for labour process theory of the earlier tradition of industrial sociology. In the highly segmented sociological world of the early and mid-1970s, it is perhaps unsurprising that Marxist scholars felt that they needed to start afresh and consign the past literature to the dustbin - sometimes with indifference and sometimes with outright contempt. Yet such sectarianism has proved costly. For a significant part of the work of labour process scholars in the 1970s involved the rediscovery of facts about industrial organization that had been common knowledge to industrial sociologists in the 1950s and 1960s. As Storey correctly perceives, the issue of managerial control lay at the core of the work of authors as diverse in their theoretical orientations as Gouldner and Woodward. The attempt to develop a theory of control while ignoring the careful descriptions in the literature of its diverse forms can only be described as half-baked.

But now that the "one best way" has finally been replaced by the rediscovery of the diversity of forms of managerial control, where, one wonders, does this leave the theory of the labour process? In practice, Storey's critical destruction of Braverman is not accompanied by much in the way of an alternative theory. He promises to explain developments in managerial control strategies "by having recourse to a dialectical approach". Leaving aside the problem that the theoretical distinctiveness of "dialectical approach" continues to elude me, what is clear is that it leads to few concrete explanatory propositions. We are simply pointed in the general direction of class struggle. The specific ways in which class struggle accounts for the varied forms of managerial control and the explanation of the different forms of such struggle takes are left unelaborated. Explanatory theory gives way to non-comparative historical narrative and to rosy descriptions of the shifting frontier of control. Presumably the real work in constructing a theory of the labour process is only just beginning.

Duncan Gallie

Duncan Gallie is reader in sociology at the University of Warwick.

## Solidarity

The Analysis of a Social Movement: Poland 1980-1981 ALAIN TOURAINE with FRANÇOIS DUBET, MICHEL WIEWORKA and JAN STRZÉLECKI

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## Law of disputes

Picketing: Industrial disputes, tactics and the law by Peggy Kahn, Norman Lewis, Rowland Livock and Paul Wiles Routledge & Kegan Paul, £5.95 ISBN 0 7100 9534 1

The aim of this book is to assess the impact of some of the provisions of the Employment Act 1980 on the conduct of industrial action during the first two years it has been in force.

In particular, it is concerned with the sections which narrow the scope of lawful picketing and outlaw certain forms of secondary action. This is not, however, a legal text, and the account of the 1980 Act is intentionally simplified - perhaps too much so. At present, a general reader may fail to appreciate that the "technicalities" of section 17 greatly limit the scope of the Act's prohibition of secondary action.

The authors endeavour to place the legislation in "the larger social environment in which it was supposed to operate". There are chapters on the rise of monetarism and neo-liberal political philosophy as well as the history and nature of British labour law. In chapter four, the writers accept Kahn-Freeman's contention that there is an inevitable conflict between the interests of capital and labour. Consequently, mechanisms exist within industry whereby such conflicts can be "routinized". Only when either side goes beyond the settled tactics for waging disputes in a particular industry, does the "normalization" of industrial conflict break down. A major thesis of the book is that these tactics depend on the nature of production in the particular industry concerned, the degree of specialization and distribution of skills of the workforce and the relative strengths of management and unions. It therefore follows that

water workers, secondary action is not necessary for effective tactics while in others, like engineering, secondary action in the form of blacking is essential.

In the second part of the book the authors examine in detail industrial disputes in South Yorkshire and Humberside in various sectors of the economy. This empirical research not only illustrates the thesis in chapter four but also suggests that the impact

of the 1980 Act is limited. As the Act's provisions are not understood, they are generally not taken into account by trade unionists: economic factors are far more important than legal issues. If the only effective industrial action available involves a breach of the Employment Act, then if a union felt strong enough (the National Union of Mineworkers, for example) it would take the action regardless of the legal consequences - particularly as the employer must instigate civil proceedings and no breach of the criminal law is involved. However, the Government's economic policies have weakened some unions' social power and industrial action has generally declined. But it does appear that the 1980 Act has strengthened employers psychologically. This was necessary: "free collective bargaining" presupposes a bargaining process, not capitulation to trade unions' demands.

The chapter on the police and picketing is excellent. The vast majority of pickets consist of small numbers of employees picketing their employer's enterprise. Regardless of the statutory definition of lawful picketing, the police regard such pickets as "normal" and picketing is minimal. If, however, a picket becomes "abnormal", (if outsiders appear on the picket line or mass picketing occurs) suggestions from the police become firm instructions and arrests can occur. But even here, the police endeavour to contain any trouble and so maintain their policy of impartial policing of industrial disputes.

The authors hope that they "have, in some small way, charted new ground in the sociology of law". By providing evidence which confirms the *prima facie* "common sense" hypothesis that industrial tactics differ according to the nature of the industry and the parties concerned, the book fulfils the writers' modest aims. But whether the current employment legislation will continue to have so little impact on the conduct of industrial relations remains to be seen.

J. M. THOMSON

J. M. Thomson is lecturer in law at King's College London.

A second, revised edition of *Understanding Industrial Relations* by David Farnham and John Pimlott has been published by Cassell at £8.95. The new edition attempts to take account of the changes in trade union power and employment law since the book first appeared in 1979.

## Traders without Trade

Response to Change in Two Dyula Communities ROBERT LAUNAY

For centuries before the advent of colonial rule the Dyula of central Ivory Coast enjoyed a virtual monopoly as local traders. This book describes two Dyula communities in the pre-colonial period and then focuses on two related problems: it examines the way they have adapted to the loss of their trade caused by the impact of colonialism, and their integration into modernity. £18.50 net

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# BOOKS

## Where's the harm?

Essays on Fiction 1971-82  
by Frank Kermode  
Routledge & Kegan Paul, £9.95 and  
£5.95  
ISBN 0 7100 9442 6 and 9443 4  
Narrative Fiction: contemporary  
poetry  
by Shlomith Rimmon-Kenan  
Methuen, £8.50 and £3.50  
ISBN 0 416 74220 3 and 74230 0

"Condon't you make your stories more obvious? I don't see any harm in that. Uncle Willie floundered helplessly." Agnes's complaint in Forster's *The Longest Journey* (1907) usefully encapsulates a continuing, familiar crisis, of both fiction and criticism. Edward Cornett quoted it in his review of Forster's *Down and Round* (1971) in 1978 and Frank Kermode quotes it in the prologue to his latest collection of essays.

Uncle Willie's bemusement suggests two related oppositions, between the obvious and the opaque in fiction and between the common reader and the professional. One kind of professional writer could, of course, side with the Uncle Willies, and hope to earn, like Arnold Bennett, £800,000 a year (his 1913 income in 1982 values), but another breed of novelist was emerging, with James Conrard and Ford, who valued formal considerations, the demands of "art", more than their potential readership - or their own income. A third kind of professional, the academic critic, seems bound to take the opposite view to Uncle Willie - if only for reasons of self-preservation - and Kermode's self-declared task as a critic is very much concerned with "deciphering the hidden meaning in the apparent meaning", the opaque concealed in the obvious.

A number of these essays are demonstrations of that process of decipherment - or rather of the fact that there is, inescapably and unavoidably, something that invites deciphering: the insistent presence of eyes, phantoms and black-white contrasts in *Under Western Eyes*, an inexplicable textual interjection in Forster's *A Room With A View*, the "surplus of sense" in (even) Bennett's *Riceyman Steps* (the odd episode of the wedding cake), the lurking echoes of Lévi-Strauss's *Mythologiques* in Anthony Burgess's *MF*, the "unmotivated" rhetorical shifts, sudden switches of levels in Henry Green's *Loving*. Yet in many cases, Kermode then sidesteps any specification of the meaning that might be hidden in such signals leaving some among his own readers still, I suspect, floundering.

One can indeed locate a certain methodological floundering in Kermode himself. At various points he appeals to the model of Freud's *Interpretation of Dreams* while in the prologue he apparently aligns his position with Hans-Georg Gadamer's *Truth and Method*: two essays register a clear debt to Barthes's *SSZ* while others develop from familiar models of biblical hermeneutics, one essay seems content with five-finger exercises in merely impressionistic summary and evaluation. In part, this spread of incompatible models, allegiances or influences might be attributed to the nature of the collection - miscellaneous pieces spanning a decade - but it also reflects a further crisis, and indicates a choice of option within that crisis.

That second crisis has arisen among professional readers themselves; Kermode even calls it a war. He recalls how, under the impact of *Communications* and *Tel Quel*, his own book *The Sense of an Ending* (1967) became a text of "unpleasant publication". The new emphasis of the last decade was not upon what texts (still less their authors) meant but on how they work, together with the assumption that the former problem could be incorporated, or collapsed, into the latter. Kermode's opinion within the resultant conflict has been "recuperative" (his own term) and this collection deploys three recuperative tactics.

The first is precisely that gently eclectic eclecticism of anathematized theorists after reading Kermode's quasi-Barthes-

ian analysis of *Trent's Last Case*, for example, even Uncle Willie might murmur, after all, "I don't see any harm in that." The second is continually to alert us that our respected Edwardian novelists had anticipated the concerns of sixties Parisian structuralists: Conrad "invented the hermeneutic gap long before Rohde-Griest examined it to engulf the whole text" and James knew that "all stories are banal and the redemption from banality must be... a technical wager, a matter of treatment", while "in some senses, those earlier inventions are still ahead of theory".

The third tactic is to remind us of the recuperative and excommunicatory powers of the professional institution itself: that "tacit dimension" of professional competence whereby "we just know" that an outsider like Ernest Bloomfield Zeisler is not even worth refuting on *Ohlala*. Kermode draws some rather unconvincing parallels between ecclesiastical control over canon and literary and critical consensus and then remarks, in an almost inescapable tone:

The institution, by hierarchical consensus, will try to protect itself

## Political strategies

Literary Theory: an Introduction  
by Terry Eagleton  
Blackwell, £15.00 and £4.95  
ISBN 0 631 13258 9 and 13259 7

Much literary theory taught and practised in universities sees itself as its own end. Here, where the dominant ideology is liberal and humanistic, literature is the embodiment of essential and enduring wisdoms; there, where works are read in studied isolation, writing is considered for its specifically literary properties. As a result, contends Terry Eagleton, the role of literary theory is often to legitimate the political and ideological strategies lying behind the construction of the canon of literary greatness and to underpin the continuing exercise of literary criticism as a discourse possessing its own custodial authority.

In this witty and accessible introductory survey, Eagleton aims to show to the beginning student of literature how much the selective body of texts he or she will be required to read and how much the language of polite consensus he or she will be trained to speak have political implications. Rather than charting out a static corpus of opinion from which the reader might choose at will, he spells out the political assumptions, hidden, explicit or in the margins and critical concepts. For instance, he must be remembered, Eagleton argues, how English studies were constructed as a discipline only in the aftermath of the Great War as a political response to social changes and to the breakdown of the hegemony of organized religion. Criticism's early clientele was made up of women, workers and colonialists. It was in that process that "literature" was born, not as a neutral academic subject, but as a tool for moral and ideological improvement.

Armed with this knowledge, Eagleton offers an introductory history of some of the principal currents of modern literary thinking, from Lewis and the new critics to structuralism, hermeneutics and psychoanalysis. His presentation is both judicious and acerbic, probing and provocative. Characteristic, perhaps, is the treatment of structuralism, for while Eagleton welcomes the way structuralists deny a fixed literature by showing meanings to be constructed and not handed down, he counts the cost of this advance. In structuralism's tendency to fix meanings to structures of symbolic logic from which history and praxis were left so much in abeyance as to be finally excluded.

Less unforgivable, however, is Eagleton's assessment of psychoanalysis. While acknowledging somewhat tepidly the way radical socialists and feminist critiques of Freud and Lacan, he prefers to underline how psychoanalysis is able to release pleasure as a theoretical concern and to understand subjectivity as both contradictory and divided. But within the terms of the book's political arguments, it remains unclear how an awareness of the social construction of subjectivity may be allied with the cultural vastness of

against barbarism, but it will do so by control of appointments and promotions more than by working on the canon. For there is a risk that new hermeneutic procedures can be taken up by people interested only in new procedures, methodological mimics whose gestures seem empty, and who care nothing for any canon. They will have to be controlled some other way (page 181).

Kermode's own notably generous contribution to institutional recuperation was a seminar on the new criticism he chaired at University College in the early 1970s and to which he pays a warm tribute in this collection. One participant was Shlomith Rimmon-Kenan (as she then was), now associate professor at the Hebrew University and author of the latest "New Aspects" volume. She certainly runs the risk of being dismissed by some combatants in the continuing "war" as a mere "methodological mimic", since her book provides a modestly synthetic summary of that body of work on narrative which rendered Kermode's 1967 essay ante-diluvian. Much of it should be familiar, in a double sense: she draws extensively on Genette, Greimas, Chatman, and

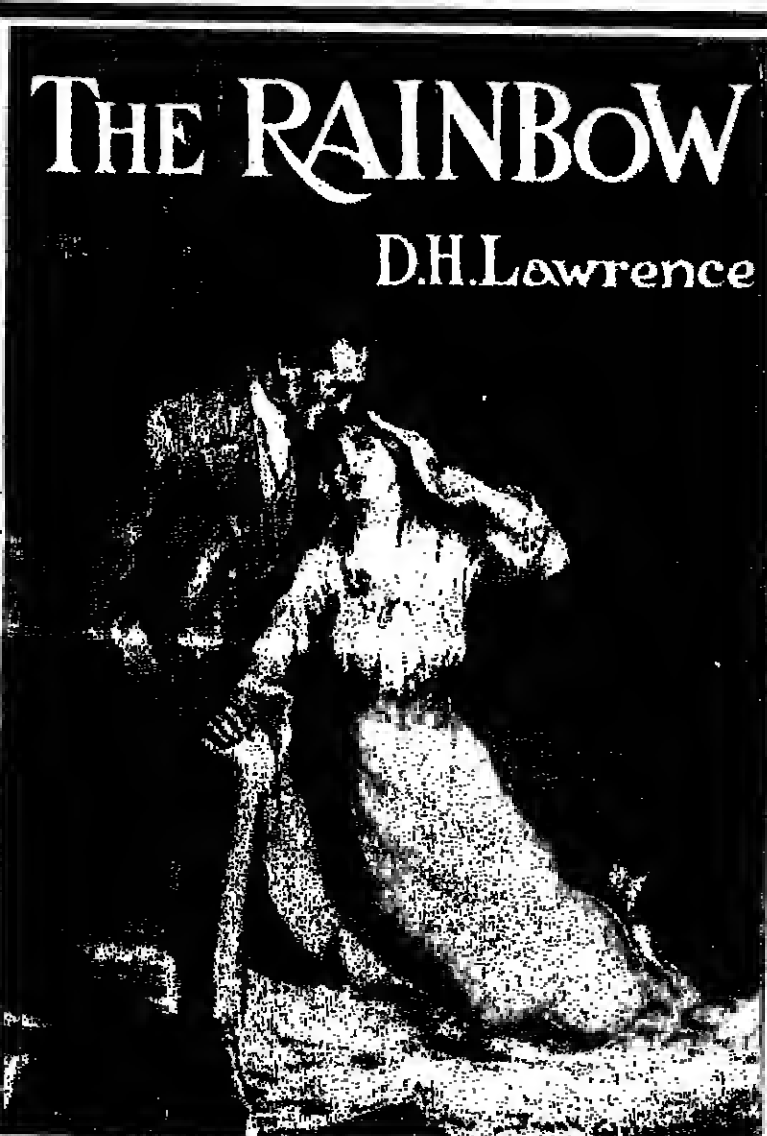
other formalists and "narratologists", whose work in turn rests upon a systematization and coherent labelling of technical features of narrative which we do indeed, in one sense, already recognize as organizing the works we read. The problems tend to arise not so much within this framework of approaches (though Rimmon-Kenan clearly and usefully locates the present perplexities: the difficulty of bonding levels of narrative structure with levels of linguistic structure, the incompatibility of various theories of character, the problematic status of free indirect discourse), as about both the theoretical premises and the interest of such mecano-mined inquiries. Rimmon-Kenan briefly acknowledges that the challenge to her premises from deconstruction might transform her introduction into an obituary, but seems to attribute any lack of interest to mere conservative "suspicion" of rigorous and demystifying analysis.

Yet the problem of interest raises awkward questions. Kermode recognizes that "it is a first principle of literary criticism that no principle should stand which prevents our being concerned with what stimulates our

unaffected interest", but I suspect that one of the more permanent features of the institutional control he examines is to operate a "tacit exclusion" not so much in the realms of canon-construction or methodological approaches as in the kinds of "interest" accepted as legitimate or appropriate. An interest in narrative theory or poetics is very quickly recuperable - once it can be severed from the political interest that has at times informed such analysis. The most symptomatic sentence in Kermode's book is: "If we ignore his ideological bias - itself a local and provincial restriction - we may find in the codes of Barthes a way of approaching the task of describing what happens when we read a narrative." Yes - but what happens when we have successfully completed that description, and why have an interest in doing it in the first place? Professional self-preservation? And is there any "harm" in that?

Bernard Sharratt

Bernard Sharratt is lecturer in English at the University of Kent.



The jacket illustration for the first edition of *The Rainbow*. The accompanying blurb, possibly written by Lawrence himself, describes the heroine at the close as "waiting at the advance post of our time to blaze a path into the future". Reproduced from Gálmil Salgado's *A Preface to Lawrence* (Longman, £4.25).

## The decline of manners

Edith Wharton: a critical interpretation, second edition  
by Geoffrey Walton  
Associated University Presses, £13.50  
ISBN 0 8386 3164 9  
The Female Intruder in the Novels of Edith Wharton  
by Carol Wershovan  
Associated University Presses, £14.95  
ISBN 0 8386 3126 6

Much of the fascination of Edith Wharton as a novelist lies in a contradiction at the heart of her enterprise: to be a novelist of manners, writing in a country and at a time when the notion of "manners", of custom, of a sustained and established culture, seemed less and less viable.

The inherited form of fiction had traditionally depended for its seriousness on a set of values rooted in a way of life and a moral culture both settled and shared. In the New York of her early years, she believed, such a settlement continued to exist: a society, whose outward forms and shows were backed by an inner personal culture of duties, obligations, and standards. But in the course of her lifetime this settled moral culture was being eroded, its traditional values and limitations, its greatest of financial capitals, the new New York of the twentieth century. It is in the shadow of this transformation that Edith Wharton's fiction unfolds.

Up to a point, the new American wealth might be bracketed and corrected by the old standards, and mapped by the old fiction, which is what we find in the dominant strand of her social satire. But the forces released by this capital explosion existed on a scale which doubly determined and swept away most of Edith Wharton's earlier, more domestic, literary values. It is in this context that Geoffrey Walton's

excellent and lucid study. Its stature becomes clearer with time, for by now Edith Wharton studies are in their second, perhaps their third generation. Carol Wershovan's book gives us the present state of the art. It does not show anything like Walton's range, only rarely venturing away from its title, and after-plot summaries that are much too long. It discovers in Wharton a repeated narrative pattern in which a female intruder disrupts a corrupt social world and serves as the author's "carrier of positive values". This is worth saying; but Wershovan says nothing else; nor does she need to. The work is well done, but in conception the project is narrow and impoverished; so too, too, is the critical vocabulary (the fall of Lily Bart is described as a "learning process" for her in many ways).

For those who prefer their learning unprocessed, Geoffrey Walton provides the best introduction to Edith Wharton's work.

Norman Bryson

Norman Bryson is director of studies in English and a fellow of King's College, Cambridge.

# BOOKS

## A product of cognition

Handbook of Human Intelligence  
edited by Robert J. Sternberg  
Cambridge University Press,  
£45.00 and £15.00  
ISBN 0 521 22870 0 and 521 29687 0

This massive tome of over 1,000 pages provides a conspectus of research on the nature of human intelligence by dividing that subject into five main parts. The first and last deal with general matters such as conceptions of intelligence, the history of its measurement and the construction of an interpretive metatheory. The central parts consist of 13 chapters distributed across considerations of the effects that cognition and personality, society and culture, and phylogeny and ontogeny, have on intelligence.

A symposium in 1921 revealed that psychologists strongly disagreed over the meaning of intelligence. Nowadays the disagreement is less marked, but differences of opinion do still exist. These result, however, mainly from the different aspects of intelligence with which different investigators are involved. Here, Sternberg's definition is "goal-directed adaptive behavior", whereas Jerison prefers "the total information processing capacity of the organism" for his purpose of using an index of encephalization to survey the evolution of biological intelligence. For developmental aims, Siegler and Richards elect to view intelligence as a prototype, and readily admit that it must mean different things to different people. Zigler and Setz go further and argue in their discussion of social policy that the outcomes of environmental intervention programmes should be indexed by their effects on social competence rather than on intelligence.

However, most contributors unite to appreciate the active, and indeed interactive quality of the human cognitive system; and this, together with their acceptance that mental aptitudes such as perceiving, learning, remembering and reasoning are so highly related that it is often difficult to tell them apart, exposes yet again the inadequacy of the IQ score as a measure of human cognition. As Bates correctly points out, "progress toward untangling the multiple determinants of individual differences in intelligent behavior can come only within the framework of more comprehensive theories of the whole interactive cognitive system."

Even so, there may be more practicable alternative approaches, one of which is based on electrical measurements of the working brain. Unfortunately, however, the book does not contain any chapters on neuropsychology and psychophysiology, and thus no attempt has been made to evaluate the work by Ertel indicated that high IQ people produce electroencephalogram-elicited potentials of significantly shorter latency and greater amplitude than low IQ people. It has also been shown by the Hendericksons that a "string measure" of evoked potentials can account for 64 per cent of the variation in IQ scores.

Another approach is based on an "inspection time" measure developed by Neilsenbeck and Brand from a person's ability to discriminate as quickly as possible between two lines of different lengths which are exposed for various time-intervals. A limitation of this measure, and its implication that to be fruitful the measure for intelligence must return to an analysis of simple perceptual and choice reaction tasks as originally proposed by Sir Francis Galton, is also missing from this book.

Yet, in spite of these shortcomings, the use of IQ scores is dealt with by Carroll in his chapter. If the financial resources for an educational service are limited then some kind of pupil selection must take place, and the purpose of this book is outlined. He reports Simon's interpretation that the test results themselves were used to justify the new

all but extinct tripartite system and to prevent the development of secondary education for all. Nevertheless, it is grudgingly allowed that the tests did get some working-class children into grammar schools.

Scarr and Carter-Saltzman weigh with balance and style the evidence for genetic influences on intelligence. They lucidly defend the use of biometrical population genetics to gain insight into the effects of heredity and environment on the child's intellectual development, and conclude that what is most needed are models of how genes and environments work together.

Overall, Sternberg's book is an impressive state-of-the-art report on the substantial progress made towards understanding human intelligence.

R. E. Rawles

R. E. Rawles is lecturer and departmental tutor in psychology at University College London.

## Visual spectrum

Photoreceptors: their role in vision  
by Alan Feln and Ede Z. Szuts  
Cambridge University Press,  
£17.50 and 7.95  
ISBN 0 521 24433 1 and 28684 0

One problem when reading about comparative sensory physiology is that the material available tends to be either in the form of a few chapters in a general neurophysiology textbook or detailed, advanced reviews. For the non-specialist, the textbook chapters, though satisfactory up to a point, have a tendency to over-generalize, oversimplify, and be out of date. One area that suffers from this is the physiology of vision, and specifically the physiology of photoreceptors, structures that detect light.

In the animal kingdom, photoreceptors range from simple "eye spots" in some single-celled animals, to the highly complex mammalian eye, a structure that gives us a detailed, colour picture of the environment around us. Evolution has selected two rather different routes to obtain approximately the same end, one within the invertebrates, culminating in the large multifaceted "compound" eyes of insects, beautifully illustrated in the dragon-fly; and the other culminating in the more "camera-like" eye of the vertebrates. Within these eyes are specialized sensory cells containing photosensitive pigments, visual purple, that absorb light and, using the energy thus gained, change chemically to generate neural signals that are transmitted to the visual centres of the brain.

During the past 20 years developments in biochemical and electrophysiological techniques for studying the function of single cells have enabled rapid advances to be made in our understanding of how and what animals see. How visual receptor cells in both vertebrates and invertebrates function, how they transduce photon energy to neural information, how they allow an animal to see in almost total darkness and in brilliant sunshine, and be able to detect colour and brightness are the subjects of this book by Alan Feln and Ede Szuts. Primarily intended for undergraduates in biology with a background in biochemistry and physiology, their much-needed book largely succeeds in its aim of providing a short but comprehensive and up-to-date account of recent research.

One major difficulty in writing a book of this type is how to reduce the great range of variation that occurs in photoreception to a manageable level. For example, although in the first section on photoreceptor structure the authors generally succeed in summarizing their material, they have allowed the chapters to become rather pedestrian. Here, I would have preferred more discussion of, say, the range of vertebrate cones, cells responsible for colour vision, and their mosaic distribution within the retina.

Section two, on photopigments, includes a discussion of colour vision, a tricky subject to reduce to a short chapter in which generalized statements may be open to criticism. I

suspect, for example, that a number of researchers would take issue with the statement that "non-primate mammals, such as rats, cattle, dogs and cats are essentially colour blind". The chapter also contains a section on the detection of polarized light. However, the treatment of colour vision and polarized light might have been better if the material had been expanded into separate chapters, as this would have enabled the authors to comment more fully on the comparative aspects of colour vision and the use of polarized light by vertebrates.

The concluding section of the book on photoreceptor physiology provides an excellent, up-to-date summary of the evidence supporting current theories of the mechanisms underlying transduction mechanism whereby light energy is converted into nerve impulses. It also includes a discussion on the ability of eyes to adapt to dim or bright lights, a problem familiar to us all when coming from a dark room into bright light and vice versa. However, these chapters are rather unsatisfactory, as there is little comment on the relevance of light and dark adaptation to the great range of nocturnal and diurnal animals.

An extra chapter summarizing the material in terms of the animal and its photic environment, might have added some excitement and stimulation to what is basically a rather unexciting text. Nevertheless, the book is an excellent introduction to a broad and complex field, and I would recommend it to any student, new or old, interested in sensory physiology.

J. K. Bowmaker

J. K. Bowmaker is lecturer in physiology at Queen Mary College, London.

## Quantum phenomena

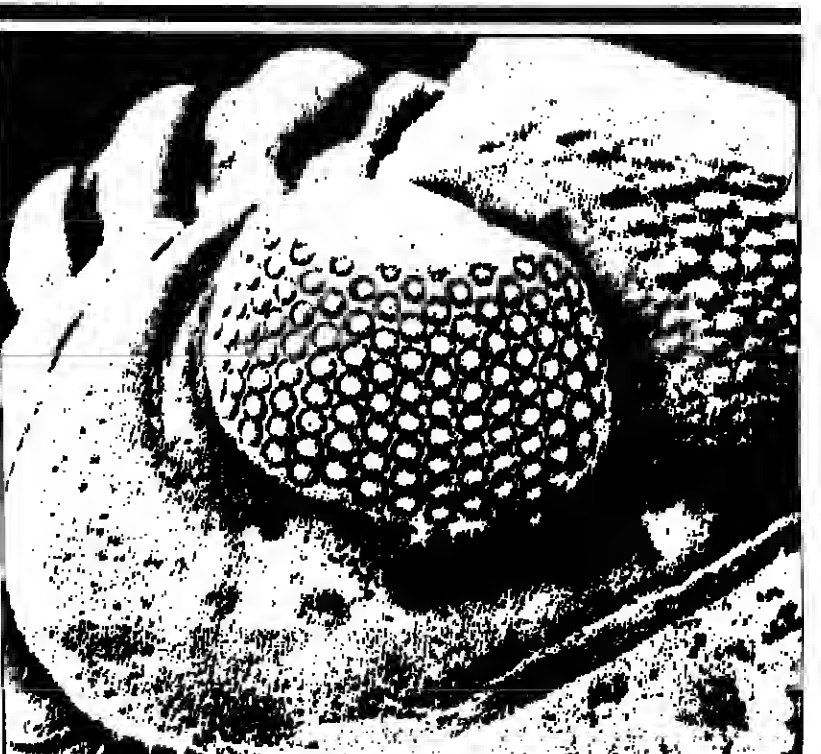
Quantum Chemistry: an Introduction  
by R. L. Flurry, Jr.  
Prentice-Hall, £31.45  
ISBN 0 13 747832 1

In his book, Professor Flurry takes the line that an attempt to interpret the first encounter with group theory is a breathless survey lasting only a couple of pages. Although that survey is excellent for someone already familiar with the subject, for a beginner it is almost useless. Admittedly, group theory is developed more fully in the book, but I think the manner of its introduction is strategically wrong.

Overall, the book is an interesting attempt to be different. Anyone who adopted it as a text would need to treat some chapters with care, and his students would need quite a lot of guidance. Having done so, however, they would see the subject in an interesting perspective.

P. W. Atkins

P. W. Atkins is a university lecturer in physical chemistry and a fellow of Lincoln College, Oxford.



Compound eye of a trilobite found in Sylvania, Ohio, fossilized in silica shale during the Devonian period (about 413-365 million years ago). Taken from *Searching for Hidden Animals: an inquiry into zoological mysteries* by Roy P. Mackal, published by Gentry Books at £8.95.

very well, and the reader will find himself enfolded in the language in an attractive manner. Nevertheless, I think some opportunities have been missed. For instance, angular momentum is introduced by the old-fashioned polynomial solution and angular momentum shift operators are not mentioned until page 303. Even then their effects are presented by assertion and without explanation (even mathematical).

As to the group theory, the author has taken the entirely respectable view that this topic is so important that it should run like a thread throughout the text. Unfortunately, he seems to have assumed that the reader will already be familiar with basic group-theoretical ideas and in effect that the reader's first encounter with group theory is a breathless survey lasting only a couple of pages. Although that survey is excellent for someone already familiar with the subject, for a beginner it is almost useless. Admittedly, group theory is developed more fully in the book, but I think the manner of its introduction is strategically wrong.

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P. W. Atkins

P. W. Atkins is a university lecturer in physical chemistry and a fellow of Lincoln College, Oxford.

## Optical fibres

Introduction to Optical Fibre Communications  
by Yasuhiro Suematsu and Ken-ichi Iga  
Wiley, £23.25  
ISBN 0 471 09143 X

Optical communications is one of the most exciting and quickly developing areas of modern technology. It is therefore somewhat surprising that the layman who has heard so much about the future impact of computers is largely ignorant of developments of similar scale in the transmission, rather than processing, of information apart, perhaps from brief references in the press to the future development of cable television.

The fact is that optical communications using fibres of glass offer the possibility of transmitting information in much greater quantities than is possible using copper conductors while also possessing a wide range of other advantages such as low loss of signal, light weight, small cross-section and resistance to interference. Applications include linking computer networks, undersea cables, telephone

cables in congested cities, and the control and communications systems of aeroplanes.

As with any new and rapidly developing field, for a few years there were no books available, followed by the sudden introduction of a wide range. This book stands out as being the most concise introduction to the whole area of optical fibre communications. In 200 pages it discusses, besides optical fibres themselves, other components of optical systems including semiconductor lasers and light-emitting diodes, detectors and optical integrated circuits, and finishes with a chapter on systems as a whole.

The concise text shows little sign of having been translated, the occasional mainly because of the conciseness. Although in a few sections I suspect that I understood what the authors were trying to say only because the material was well known, this was the case only in a few places, as overall the presentation is very lucid. The book gains much from the abundance of illustrations, but some add little to understanding - such as that of rows representing coherence and of different cases representing different modes.

Although propagation of signals in optical fibres is mathematically complicated, the authors have avoided unnecessary mathematics by using physical models and graphical presentation. Surprisingly there are few results given for the important practical cases of fibres of circular symmetry; and some tables and figures of the properties of cylindrical fibres might have been helpful for practising engineers. Even though the more difficult mathematics is reserved for the appendices, I rather doubt the usefulness of some of this material as it does require some background knowledge.

The chapters on light sources are clear, apart from a rather confused treatment of coherence in which longitudinal and lateral spatial coherence are not adequately differentiated. Perhaps too much space is devoted to describing properties of lasers; certainly the chapter on systems is very brief and overamplified by comparison. Similarly, the section on optical integrated circuits is rather detailed, taking into account the limited practical application at present. On the other hand there is no discussion about other future possibilities that might have dramatic effects - such as fibres for use with light of longer wavelength.

The book is most suitable for undergraduates, concentrating as it does more on the principles involved rather than the practical details necessary to a practising engineer. It will also be useful as an introductory text, the comprehensive bibliography being most helpful for more detailed study. Those requiring a concise and clear review of the whole area of optical communications could do no better than consult this book.

C. J. R. Sheppard

C. J. R. Sheppard is a fellow of Pembroke College, Oxford.







## Universities continued

## UNIVERSITY OF THE WEST INDIES - JAMAICA

Applications are invited from suitably qualified candidates for the following posts:

**PROFESSOR OF LIBRARY STUDIES**  
Successful applicant will be required to teach at first degree and postgraduate diploma levels and will be expected to have a research orientation and interest in postgraduate work.

**PROFESSOR/SENIOR LECTURER IN APPLIED PHYSICS**  
Appointment to be made in the field of Electronics or Materials Science. Successful applicant expected to continue to shape and teach undergraduates as well as graduate courses and to lead in the further development of research in the area of Electronics/Materials Science. Industrial experience an advantage. Appointment made at Professor level in the field of Electronics, appointments will be supplemented by grant (a) or (b) at least \$30,000 over a three year period in the first instance, and successful applicant will be expected to establish contact with organisations outside the University in order to develop teaching programmes aimed to the needs of industry and play a role in development of local electrical industry. Duties to be assumed by 1 October, 1983 or as soon as possible thereafter.

**SENIOR LECTURER/LECTURER IN PHYSICAL CHEMISTRY**  
Successful applicant will be expected to play a major role in teaching and organising courses in the Department and to contribute to its research programme.

**SENIOR LECTURER/LECTURER IN COMPUTING, DEPARTMENT OF MATHEMATICS**  
Preference will be given to applicants with interest and experience in Business Information Systems and in Data Processing, but applicants specialising in other areas of Computing Science will also be considered.

**SENIOR LECTURER/LECTURER IN TELEVISION PRODUCTION, CARIBBEAN INSTITUTE OF MASS COMMUNICATIONS (CARIMAC)**

Successful applicant will be responsible for teaching all aspects of television production (including theory, script writing, editing) at beginner and advanced levels in Diploma and degree programmes. Applicants should have appropriate University degree and/or practical professional experience in the field.

**LIBRARIAN III/ASSISTANT LIBRARIAN**  
Applicants must either be graduates with appropriate professional qualifications or Fellows of the Library Association (or equivalent). Level of appointment will be dependent on experience. Successful applicant will be expected to work in the main in the Cataloguing Section of the Library. Experience with the Library of Congress Classification, Anglo-American Cataloguing Rules Second Edition (AACR2), automated cataloguing systems including online cataloguing would be an advantage.

Salary Scales (1982/83):

Non-pensionable allowance  
**SENIOR LECTURER**  
J\$21,477-J\$27,854  
Non-pensionable allowance  
**LECTURER & LIBRARIAN III**  
J\$5,636-J\$7,848  
Non-pensionable allowance  
**ASSISTANT LECTURER & ASSISTANT LIBRARIAN**  
J\$3,693-J\$6,016  
Non-pensionable allowance  
**PROFESSOR (1983/84):**  
J\$30,423-J\$37,847  
Non-pensionable allowance  
**SENIOR LECTURER**  
J\$21,477-J\$27,854  
Non-pensionable allowance  
**LECTURER & LIBRARIAN III**  
J\$5,636-J\$7,848  
Non-pensionable allowance  
**ASSISTANT LECTURER & ASSISTANT LIBRARIAN**  
J\$3,693-J\$6,016  
Non-pensionable allowance:  
(£1 Sterling = J\$2.85)

FSRU Study and Travel Grant. Unfurnished accommodation or housing allowance. Up to five (5) full course passages on appointment and on normal termination. Detailed applications (three copies) with curriculum vitae and naming three referees should be sent to the Registrar, UWI, Mona, Kingston 7, Jamaica. Applicants resident in the UK should also send one copy to the Overseas Educational Appointments Department, The British Council, 90/91 Tottenham Court Road, London W1P 0DT quoting reference U107-U112/83. Further details are available from either source.

## The Middlesex Hospital Medical School (University of London)

## Applications are invited for the post of SECRETARY OF THE MEDICAL SCHOOL, available from 1 August 1983

The post will also include a role in the Joint School comprising The Middlesex Hospital Medical School, The Faculty of Medical and Clinical Sciences of University College, London and the Postgraduate Institute of Laryngology and Otolaryngology, and of Otorhinolaryngology and of Urology.  
Salary: from £17,278 to £21,188 per annum London Allowance (scale V).  
Further particulars are available from the Dean to whom all enquiries should be addressed. Applications in writing with full curriculum vitae by first post, 31 July 1983 to The Dean, The Middlesex Hospital Medical School, London W1P 7PN.

## University of Oxford

**ASSISTANT CHIEF ACCOUNTANT**  
Applications are invited for the post of Assistant Chief Accountant in the Department of Accounting and Finance. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

## The University of Sheffield

**CHAIRMAN OF LANDSCAPE ARCHITECTURE**  
Applications are invited for the post of Chairman of Landscape Architecture. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

## UNIVERSITY OF THE SOUTH PACIFIC

Applications are invited for the following posts:

## LECTURER IN BIOLOGY (83/42)

Candidates should normally have a PhD degree and experience in University teaching. Candidates will be considered from any area of Plant Biology, but an interest in marine biology and/or environmental physiology could be an advantage. They should have wide interests in Biology and be prepared to contribute to teaching at all levels in a range of areas outside their speciality. Candidates able to obtain secondment for a contract period will be considered. Appointment will be for a contract period of three years in the first instance.

## LECTURER/SENIOR LECTURER IN ECONOMICS (83/45) 2 Posts

The successful applicant should have good postgraduate qualifications and a proven record of teaching and research experience and would be expected to develop and teach courses in the general area of economics. One of the posts requires academic ability to teach Microeconomics and, possibly, History of Economic Thought. It is expected that the applicants will be available to take up their appointments on or before 1st February, 1984. One appointment will be for a contract period of three years and the other for a one-year period.

Salary Scales: Senior Lecturer: F\$18,440-F\$18,847  
Lecturer: F\$10,892-F\$15,245  
(£1 sterling = F\$1.8225)

In addition the University provides gratuity amounting to 15% of basic salary, appointment allowance and subject to the University's current housing policy, partly furnished accommodation at a rental of 12 1/2% of salary. The University will pay an allowance in lieu of superannuation of 10% of standard salary. In some cases this allowance may be paid direct to the appropriate existing superannuation scheme subject to a decision of acceptability of the scheme by the Commissioner of Inland Revenue.

The University has a small number of positions within the establishment for which the British Government carries superannuation payments (SESS). These present posts carry no such benefits and are offered on local terms and conditions only.

Candidates should send three (3) copies of their curriculum vitae with full personal particulars, names and addresses of three referees and date of availability to the Registrar, The University of the South Pacific, PO Box 1188, Suva, Fiji, to reach him no later than 22nd July, 1983. Applicants resident in the UK should also send one copy to the Overseas Educational Appointments Department, The British Council, 90/91 Tottenham Court Road, London, W1P 0DT quoting reference U105-U108/83.

Further details available from either address.



## School of Modern Languages

Applications are invited for a temporary Lecturer in French. The successful applicant will be expected to teach French in the first year of the BA programme and to be available to teach French in the second year of the BA programme. The successful applicant will be expected to have a research orientation and interest in postgraduate work.

## The Queen's University Belfast

**LECTURERSHIP IN FRENCH**  
Applications are invited for the post of Lecturer in French. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

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## The Papua New Guinea University of Technology

Department of Accounting and Business Studies  
**LECTURER IN ECONOMICS**

Applications are invited for the post of Lecturer in Economics. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

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## The Papua New Guinea University of Technology

Computer Centre  
**PROGRAMMER GRADE 4/SENIOR PROGRAMMER**

Applications are invited for the post of Programmer Grade 4/Senior Programmer. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

**PROGRAMMER GRADE 4/SENIOR PROGRAMMER**  
Applications are invited for the post of Programmer Grade 4/Senior Programmer. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

**PROGRAMMER GRADE 4/SENIOR PROGRAMMER**  
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## Universities continued

## University of Aberdeen

Department of Engineering  
**SENIOR LECTURERSHIP IN ENGINEERING**

Applications are invited for the post of Senior Lecturer in Engineering. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

**SENIOR LECTURERSHIP IN ENGINEERING**  
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## The University of Sheffield

**TEMPORARY LECTURESHIP IN THE DEPARTMENT OF PURE MATHEMATICS**

Applications are invited for the post of Temporary Lecturer in Pure Mathematics. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

**TEMPORARY LECTURESHIP IN THE DEPARTMENT OF PURE MATHEMATICS**  
Applications are invited for the post of Temporary Lecturer in Pure Mathematics. The successful candidate will be responsible for the day-to-day running of the department and will be expected to have a research orientation and interest in postgraduate work.

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## Polytechnics

## Bristol Polytechnic LECTURING VACANCIES

Salary Scales: £17,215-£21,683 (per) - £11,588 per annum. SL £10,683-£12,552 (per) - £13,443 per annum.

Appointments will be made on the appropriate scale according to relevant previous service/experience. (Progression from the L1 scale to the SL scale is in accordance with the provisions of the Burnham Further Education Report).

## Law Department

## 2 Lecturer II/Senior Lecturers IN LAW

Ref No L/48 an L/47

The Department of Law proposes to fill two permanent posts from 1 September 1983 or as soon as possible thereafter.

1. Mainly to teach Litigation, but also Company Law and Consumer Law, to Law Society Final classes. Ability to deal with related tax is essential. Applications are invited from solicitors with good degrees and substantial experience of litigation practice and an ability to make a significant contribution to the research and development activities of the Department.

2. To teach Company Law, with related tax law, to Law Society Final and Land Law (with emphasis on Planning, Housing and Highway Law) and Administrative Law to law students. Research experience and knowledge of presenting mock tribunal proceedings would both be an advantage.

## Department of Modern Languages Lecturer II/Senior Lecturer IN SPANISH

Ref No L/55

Applications are invited for the above post in the Department of Modern Languages.

Spanish is taught substantially on the BA Honours in Modern Languages degree, with its emphasis on command of the language and knowledge of contemporary Spanish society, and also on the Post-graduate Certificate in Spanish.

## Department of Sciences Lecturer II/Senior Lecturer IN BIOCHEMISTRY/ BIOTECHNOLOGY

Ref No L/52

Applications are invited for the above post from graduates in biochemistry, or a related subject, who have research



## Polytechnics continued

## SUNDERLAND POLYTECHNIC

Faculty of Engineering  
DEPARTMENT OF ELECTRICAL, ELECTRONIC AND  
CONTROL ENGINEERING

LECTURER GRADE II/  
SENIOR LECTURER

Salary Scale: LI - £7,215-£10,993 Bar-£11,568  
SL - £10,993-£12,652 Bar-£13,443

Following the award of significant additional funding for development in Information Technology applications are requested for TWO permanent posts at the LI or SL grade. Candidates are sought with expertise/research interests in any area within the Department's interests, however applications from those having experience in the industrial application of microprocessor based systems, robotics, data communications and/or flexible manufacturing systems would be an advantage. Candidates should have a good Honours Degree or equivalent qualifications, higher degree preferred. They should also have appropriate industrial research and/or teaching experience. An application form and further particulars may be obtained from:

The Personnel Officer  
Sunderland Polytechnic  
Langham Tower  
Ryhope Road, Sunderland, SR2 7EE  
Closing date: 7th July, 1983.

## North East London Polytechnic

Faculty of Engineering, Building and  
Department of Manufacturing Studies and Mechanical  
Engineering

## Lecturer II/SL:

Two posts in Manufacturing Studies

Applications are invited for lecturing appointments to commence in September, 1983.

Candidates should possess a relevant first or higher degree and have suitable industrial experience to teach Manufacturing Technology or Manufacturing Systems to final year degree and diploma students. Preference will be given to candidates who can also demonstrate an interest and ability to develop the teaching of one of the following: Flexible Manufacturing Systems; Robotics/Automation; CAD/CAM; Microcomputer Control of Processes.

Applicants will be encouraged and expected to conduct research in a Salary scale: £7,215-£11,568 p.a. + appropriate London Weighting allowance.

For further details and an application form please contact the  
Polytechnic Personnel Office (R), Ash Grove, 198/194 High Road,  
Chesham Heath, Romford, Essex RM6 6L or telephone 01-590 2773  
quoting reference number E/183. Closing date for receipt of  
application forms 4th July, 1983.

**NELP** North East London Polytechnic

## SHEFFIELD CITY POLYTECHNIC

DEPARTMENT OF URBAN AND REGIONAL STUDIES

LECTURER II/  
SENIOR LECTURER IN LAW

The successful applicant will be a professionally qualified lawyer who will teach the Law of Contract, the Law of Tort, the English Legal System and the Law of Property and Public Law, possibly with experience of local government, to students on the Law Degree.

The teaching ranges from Higher Technician to Polytechnic level but will mainly involve undergraduate courses related to Chartered Surveying and/or Housing.

Applicants should have a first class honours degree in Law or equivalent.

Salary Scale: Lecturer II - £7,215 to £11,568.  
Senior Lecturer - £10,993 to £12,652 (bar).

Interested applicants may telephone the Department to discuss the post with the Head of Department, Mr A. Lister on 0742-2011, Ext. 338.

Application forms and further details are available from the Personnel Officer, Sheffield City Polytechnic, 100, Victoria Road, Sheffield S1 2ND. Tel: 0114 276 4111. Closing date for receipt of applications 4th July 1983.

Sheffield City Polytechnic is an Equal Opportunities Employer.

## Sunderland Polytechnic

Faculty of Education

Department of Physical Education and Creative Studies

LECTURER II/SENIOR LECTURER IN EDUCATION

Salary Scale: LI - £7,215-£10,993 Bar-£11,568  
SL - £10,993-£12,652 Bar-£13,443

Applications are invited for the above post which relates to the teaching of Physical Education to students on the BA (Hons) Education and the BA (Hons) Education and Physical Education courses.

Applicants should have a first class honours degree in Physical Education or equivalent.

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## Portsmouth Polytechnic

Department of Social Studies

LECTURER II/SENIOR LECTURER

Salary Scale: LI - £7,215-£10,993 Bar-£11,568  
SL - £10,993-£12,652 Bar-£13,443

Applications are invited for the above post which relates to the teaching of Social Studies to students on the BA (Hons) Social Studies and the BA (Hons) Social Studies and Social Science courses.

Applicants should have a first class honours degree in Social Studies or equivalent.

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## KINGSTON POLYTECHNIC

School of Economics and Politics

TEMPORARY LECTURERS II

In Economics and Quantitative Methods

These are one year appointments from September 1983 made necessary by absence on leave of lecturers in the School. Applicants will be expected to teach micro, macro or development economics up to final year undergraduate level, or to teach economics and quantitative methods up to final year undergraduate level. Applicants should have a higher degree and preferably teaching and/or research experience. The ability to offer specialisms in economics, or to offer quantitative methods to students on BTEC courses, would be an advantage.

Computing Education Centre

PRINCIPAL LECTURER AND SENIOR LECTURER/LECTURER II

(2 posts)

We are seeking two new staff to develop market and present further short courses in the areas of Computing, Information Technology and Office Automation. Applicants should have experience of working with computers, microcomputers or office automation products, perhaps in an education, marketing or customer support role.

Salary range: Principal Lecturer: £13,134-£18,356; Lecturer II: £7,930-£12,193.

Further details and application forms (to be returned by 6th July) from Academic Registry, Dept. AD, Kingston Polytechnic, Penryn Road, Kingston upon Thames KT1 2EE. Tel: 01-546 1355.

Closing date for applications: 10th July 1983.

Applications should be sent to the Personnel Officer, Kingston Polytechnic, Penryn Road, Kingston upon Thames KT1 2EE. Tel: 01-546 1355.

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## LOTHIAN REGIONAL COUNCIL

NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY

DEPARTMENT OF EDUCATION

RESEARCH ASSISTANT

DEPARTMENT OF LANGUAGES

A vacancy exists for a Research Assistant in the field of French for Science and Technology.

The successful applicant will pursue research with a teaching team leading to: 1. Production and evaluation of French teaching materials; 2. Investigation of computer languages (e.g. STAFF author language) in relation to computer-assisted language learning. A knowledge of German would also be useful.

The successful applicant will be expected to register for a higher degree. The appointment will be for 3 years.

Applicants with a degree qualification in science or technology will also be considered, given that they have fluency in French.

Salary on Scale £5,975-£7,791.

Application forms and further particulars may be obtained from The Administrative Officer (Personnel), Napier College, Colinton Road, Edinburgh EH10 8OT.

Closing date for applications is 8 July 1983.

Applications should be sent to the Personnel Officer, Napier College, Colinton Road, Edinburgh EH10 8OT. Tel: 01-627 1355.

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## Colleges with Teacher Education

## INNER LONDON EDUCATION AUTHORITY

## GARNETT COLLEGE

Downshire House, Roehampton Lane  
London SW15 4HR. (Tel: 01-789 6533)

Applications are invited for appointment as soon as possible to the following posts:

## 1 Senior Lecturer in Nursing Studies

Applications are invited from experienced registered nurse tutors, preferably university graduates, who have had wide experience in general nursing. Teaching experience in FE might be an advantage.

## 2 Lecturer II in Secretarial and Office Studies

The person appointed will be required to work as a member of a team and to share the teaching of method classes both to pre-service and in-service students. Candidates should have had several years' relevant teaching experience in FE.

Applications are also invited for the following TEMPORARY posts:

## 3 Lecturer II in Computer Applications

To heighten awareness of the application of computer technology in a range of specialised subject areas, to keep abreast of current developments and encourage student teachers to be actively involved in computer applications from the outset of their careers. The teaching will also include some assistance with existing Educational Technology courses. It may be possible to arrange secondment. The post will probably be available for between one and two years.

## 4 Part-time Lecturer II in Vocational Preparation

(0.5) required until the end of the 1983/84 academic year. Candidates should be currently involved in some aspects of vocational preparation teaching in FE. The appointee will be primarily concerned with the preparation of student teachers for work in this area. The appointment may be available through a 0.5 secondment arrangement.

Salary scales in accordance with the Burnham (FE) award effective from 1 April 1983 (subject to formal approval): Lecturer II £7,215-£11,568; Senior Lecturer £10,683-£12,352; all plus 10% Inner London allowance. Starting point depending on qualifications, training and experience. Applicants should indicate for which post(s) they wish to receive details.

Further information and application forms, returnable within 10 days of the date of the advertisement, obtainable from the Principal (Ref\*) of the above address.

## Administration

## SCOTTISH INSTITUTE OF ADULT EDUCATION

## DIRECTOR

Salary £11,565-£15,084 p.a.

Applications are invited from men and women with a background in adult education and with administrative experience for the above post which becomes vacant on 1st September, 1983.

The Institute is a non-governmental organisation which encourages the provision and extension of education and training opportunities for adults.

Further details from:

The Hon Treasurer  
Scottish Institute of Adult Education  
30 Rutland Square  
Edinburgh EH1 2BW  
Tel: (031) 229 0331

The College of  
PreceptorsADMINISTRATIVE  
APPOINTMENTS

The College of Preceptors is a long established Chartered Body which provides examination facilities and membership for experienced teachers and educationalists. Inviting applications from graduates for the following posts at its Bases headquarters:

1. Academic Administrator. Applicants should be able to offer previous experience from an academic institution, or with an examination body, starting salary £5,400 p.a. (pay award pending).

2. Administrative Assistant. This post is particularly suitable for a recent graduate who wishes to make a career in education. Starting salary £3,400 p.a. (pay award pending).

Further details are available from The College of Preceptors, Copple Spelling, Essex, CM2 7DN (Tel: 0206 801 511). The closing date for applications is 31st July.

The College of  
PreceptorsADMINISTRATIVE  
APPOINTMENTS

The College of Preceptors is a long established Chartered Body which provides examination facilities and membership for experienced teachers and educationalists. Inviting applications from graduates for the following posts at its Bases headquarters:

ACADEMIC ADMINISTRATOR. Applicants should be able to offer previous experience from an academic institution, or with an examination body, starting salary £5,400 p.a. (pay award pending).

Further details are available from The College of Preceptors, Copple Spelling, Essex, CM2 7DN (Tel: 0206 801 511). The closing date for applications is 31st July.

University of  
BirminghamADMINISTRATIVE  
ASSISTANT

Applications are invited from graduates who wish to make a career in education. Starting salary £3,400 p.a. (pay award pending).

Further details are available from The University of Birmingham, Education Department, 3rd Floor, 200 Edgbaston Road, Birmingham B15 2TT. The closing date for applications is 31st July.

University of  
SouthamptonDepartment of Mechanical  
Engineering

## ADMINISTRATOR

Applications are invited for the appointment of Administrator in the Department of Mechanical Engineering. The administrator will be responsible for the day-to-day administration of the Department. Applicants must have a degree in Mechanical Engineering, or a related discipline, and a minimum of two years' experience in an administrative position. Starting salary £5,400 p.a. (pay award pending).

Salary will be on Administrative salary scale £A - £22,310 by 12 increments of approximately £1,410 to £31,115 per annum. Starting salary will be determined according to experience and qualifications. Good pension scheme and annual leave. It is hoped that the successful candidate will take up the appointment towards the end of the year.

be contacted from 10.30 a.m. to 5.00 p.m. by telephoning the University of Southampton, Hampshire, PO9 5NH, on (0703) 593111. For an application form and details of the closing date, please contact the Personnel Office, 1000 Jefferson Drive, SW, Washington, DC 20004, before 1st July, 1983. Salary dependent upon experience. Appointment to begin 15th September, 1983. SI is EOE employer.

Holidays and  
Accommodation

## OVERSEAS

OVERSEA (ISLAND): Excellent but cheap accommodation on unspoiled island. Phone: 01 224 4811.

## Overseas

Papua New Guinea  
LECTURER/SENIOR  
LECTURER  
(GENERAL  
POSITIONS)

The Papua New Guinea College of Education is seeking applications for several positions. Applicants should be able to teach in at least one of the following areas: General Education, Accounting, Government, Management, Communication, Skills, Personal Management, Finance, Development, Social, and Health. Applicants should have a relevant degree, and experience in a development area. Starting salary £5,400 p.a. (pay award pending).

Further details are available from The Papua New Guinea College of Education, P.O. Box 111, Port Moresby, Papua New Guinea. The closing date for applications is 31st July.

Additional benefits: Incentive grant, housing allowance, and other subsidies.

For further information, contact the Papua New Guinea College of Education, P.O. Box 111, Port Moresby, Papua New Guinea. The closing date for applications is 31st July.

## WAT

Western Australian  
Institute of Technology

## Tenured Appointments

SENIOR LECTURER  
QUANTITY SURVEYING

Teach in the Quantity Surveying degree course, specifically in the area of prices and building economics. In the School of Architecture and Planning. Computer application experience in cost and energy modelling techniques essential. Eligibility for membership of the Australian Institute of Quantity Surveyors and relevant professional and teaching experience required; a higher degree advantageous. The appointee may be required to serve as Head of Department of Quantity Surveying (Ref 588).

SENIOR LECTURER  
CRAFTS (TEXTILES  
AND FIBRES)

An eminent crafts practitioner is required to assist the Course Controller of Crafts to teach and provide professional and academic leadership in the Textiles and Fibres section of the BA Degree in Crafts in the School of Art and Design. A postgraduate degree or equivalent is essential together with organisational and teaching experience in tertiary education (Ref 587).

SENIOR LECTURER  
EARLY CHILDHOOD  
EDUCATION

Teach, provide leadership and contribute to programme development in early childhood education at undergraduate and postgraduate levels in the Faculty of Education. Qualifications and experience are required in teaching strategies, curriculum and/or development and learning related to the early childhood field. Higher degree desirable (Ref 585).

SENIOR LECTURER  
ANTHROPOLOGY

Teach Anthropology at undergraduate level, assist in planning future postgraduate offerings and provide academic leadership in the School of Social Sciences. Applicants require a postgraduate qualification in Anthropology and specialised experience in one or more of Australian Aboriginal Studies, South-east, South or East Asian Studies or other specialised area relevant to the School programme. A background in Applied Anthropology is desirable (Ref 588).

Salary range \$20,000 - \$28,077. Qualifications: Candidates with lower qualifications than stated above will be considered if they have the relevant level of experience. Conditions include leave for spouse and family plus assistance with removal expenses; superannuation. Applications: Details including the name and address of three referees should be submitted in duplicate no later than 8th July 1983 to the Migration Office, Western Australia House, 118 Strand, London WC2R 0AL. When applying please quote Ref No and Code HES.

Teach in  
North Africa

The Oil Companies School located in Tripoli, Libya; SPLA, requires Elementary and Junior High School teachers who are familiar with the North American education system.

Positions include:  
CLASSROOM TEACHERS K-8,  
PRIMARY MUSIC, Grades 4-9  
PHYSICAL EDUCATION,  
ART 7-9 and YEARBOOK

Five years of successful teaching experience preferred. Experience in ESL/EFL teaching situation would be of benefit. Attractive salary and benefits.

Interviews will be held in London.

Send complete applications and telephone number to:

JAWABY OIL SERVICE

UMM AL-JAWABY OIL SERVICE CO. LTD.,

33 Cavendish Square, London W1M 6HF.  
Telex: 261443 Jawabyl G, Attn: Roy Nash

## Overseas continued

QUEENSLAND INSTITUTE OF  
TECHNOLOGY  
Brisbane, Australia

## SCHOOL OF COMPUTING STUDIES

## Head of School

The Institute is a Federally funded, autonomous, multidisciplinary college with a student population of around 7,500 located near to the city centre in sub-tropical Brisbane, Australia.

The School of Computing Studies has recently been established at the Institute and applications are invited from suitably qualified persons for the post of Head of School.

Applicants must hold a relevant higher degree, demonstrate an active interest in computing and have a proven record as an effective administrator in either or both industry and academia. Salary is \$246,977 pa. Assistance is provided towards removal costs.

It is intended to offer the post on a tenured basis, however, a course appointment of up to three years' duration may be considered at the request of an applicant.

Further information is available from the Personnel Officer, Queensland Institute of Technology, George Street, Brisbane 4000, Australia.

Applications, quoting TS/83 together with full details including telephone contact and the names of three referees, to reach the Personnel Officer by Friday, 29th July 1983.

Program Secretary  
of European Program

The Woodrow Wilson  
International Center  
for Scholars  
in Washington, DC

seeks person to provide intellectual and administrative leadership in a Program of advanced research, meetings, conferences and publications covering east and western Europe. Program Secretary responsible for developing and planning intellectual agenda, evaluating and selecting proposals, securing funds to support the program.

Send letter and c.v. to Wilson Center, Smithsonian Institution Building, 1000 Jefferson Drive, SW, Washington, DC 20504, before 1st July, 1983. Salary dependent upon experience. Appointment to begin 15th September, 1983. SI is EOE employer.

## Librarians

TRAINEE  
LIBRARIAN

c. £6,000

Graduate needing pre-library school experience required by small technical library in Central London.

As a computer-based information retrieval system is being implemented, keyboard experience would be advantageous.

Box No. 0744  
THES  
Priory House  
St John's Lane  
London EC1

## REMINDER

copy for classified Ads

in the

THES

should arrive  
not later than

10am Monday

preceding publication

THE TIMES  
SUPPLEMENTS  
RE-PRINT SERVICE

## Leverhulme Report

A four-page edited version of the final report of the programme. First published in the *THES* 27 May, 1983. Price 25p.

## Information Technology

A eight-page report on the latest developments of IT in our universities, polytechnics and colleges. First published in the *THES* 17 June, 1983. Price 80p.

Education & Training for  
Employment

A further report on this very important area of education examines developments which have taken place since last year. Available from 1 July, 1983. Price 70p.

All prices include postage and packing within the UK, but not hand delivery or Red Star delivery.

Enquiries about other reprints available should be sent to Linda Bartlett at the above address. Telephone: 01-253 3000.

Please send me the following reprints:

Leverhulme - price 25p each ☐

Information Technology - price 80p each ☐

Education & Training for Employment - price 70p ☐

I enclose my cheque/postal order (no cash please) made payable to Times Newspapers Limited the sum of ..... Signed .....

Please send this coupon to:

Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX.

## Colleges of Art

London Borough  
of Bromley  
Havenabourne  
College of Art  
and Design

Head of Fashion/  
School Textiles  
Design

Salary:  
Currently Burnham  
Grade II

This School has an  
established reputation  
in Fashion Design at  
BA Honours Degree  
level, with supporting

studies in Fashion  
Textiles and Knit-  
wear and an associated  
Foundation  
Studies area.

The successful applicant will be responsible for the direction and continuing development of the School.

Further details and application forms (to be returned by 8 July, 1983) from:  
The Registrar,  
Havenabourne  
College of Art and  
Design, Walden  
Road, Chislehurst,  
Kent BR7 5BN.  
Tel: 01-488 7071.

## Special Features 1983

July

1 Education for Employment

Aug

12 Feature to commemorate the 13th Commonwealth Universities Congress at Birmingham (14-20 Aug.)

Sept

16 Reviews of New Journals in the Sciences



# Don's diary

## Monday

Celebrated the Bank Holiday with an extra ten minutes in bed. A wet dreary morning, regretted somebody else's high sense of vocation which led the university court to decide to transfer the holiday until after classes had finished for the term. Great puddles outside the JCMB... they can put men on the moon but can't lay paving straight and square... what's the point of high technology when it's low technology that makes life comfortable? What a beginning to a week.

Met a drenched meteorologist in the lift, "didn't realize it was so wet", cheered me up no end!

Skimmed through 16-18s in Scotland, An Action Plan, checked reading list for next year's classes. Wrote reference for a FE applicant; job blurb says "normal working week 32 1/2 hours". Coffee. On with the chores, checked material for tomorrow's tutorial classes, words of encouragement to anxious final year student (looks a bit pecky, hope she's eating enough). We really ought to give them more tutorial classes in this last term. They're left staring too long, a bit of help and advice at the right moment goes a long way. Bread and cheese. Chores. Colloquium. Quick chat about a new textbook series for school... a gold mine there is you can write a decent book. Home. Some Mothers Do Have 'em - just what's needed for exam-suffering children. (For English readers, the Scottish school exams began April 25).

Marked the tutorial hand-ins. Bed.

## Tuesday

A postgraduate student reported that a member of his tutorial class was "under the weather" at 10am. Let's hope we can give some effective help. It is not easy to spot people with problems in a class of 18. The large number seems to induce a ridiculous degree of anonymity among students and to inhibit mutual support. Apart from a general social responsibility, do I have any responsibility to the student other than that of presenting the mathematics competently? Where is the line to be drawn between a proper concern for a student's wellbeing and intrusion into his personal affairs? Passed the buck: told his director of studies, it's his job to advise and help, it wouldn't do for all the academic staff to descend on the man looking "concerned".

## Wednesday

Over lunch, CJB reconstructed the "scratch" method of long division from the unexplained example in Struik's book.

344352 - 3587  
96 3184  
7617  
344352 3587  
96666 999

A round of applause from his colleagues.

Staff-student liaison committee this afternoon, note the ordering of the title, no doubt about who is important. The usual topics: model solutions being stolen from the reading rooms, some tutors not doing their job effectively, some lecturers too fast, some

too slow. The students rejected my suggestion that end of term examinations were unnecessary. They wouldn't do any maths without them, wouldn't know how they were coping with the course, makes them see the term's work as a whole... someone should write an ode in praise of examinations!

Then off to a faculty meeting. New blood. Financial situation. Etc. The financial future doesn't look too bad, providing we waste the skills and experience of senior staff in premature retirement. Somebody wanted to convene a special meeting to discuss the educational aims of the faculty, but it was difficult to find a convenient date...

## Thursday

Must try to get those exam papers proof-read today. A stream of interruptions from students wanting help with their engineering projects... glad they actually use maths... must be a deadline lurking in the near future. Interesting lunchtime talk on nature conservation.

Afternoon truncated by staff meeting at 4pm: Prof's verbal report of the dean's verbal report of the verbal report of the UGC mathematics committee which visited last term. Difficult to believe anyone takes the committee seriously after the incompetent Jones report *Whither Mathematics* of 1981. New blood to consolidate excellence may! Danger of meeting ending early, but some diligent members averted the threatened shortfall. In discussion. Must get those exam papers checked tomorrow.

## Friday

Another wet start to the day. I'll never get the peas and beans sown in this weather continues. Difficult lecture on numerical stability received attentively... didn't need to use jokes against mathematicians, nothing funny about comical methods. Discussion about local government cuts over coffee... Lothian region vs. central Government... cuts haven't made much difference was the prevailing view... better to live in a ivory tower than a council flat, I bet. Discussed our tape/booklet sequences with an American visitor: a market there perhaps. Checked final honours papers. Time for lunch. Who should be the next head of department? Perhaps we should have a "hearing" so that the most likely candidate can be questioned about how he intends to lead the department, what new initiatives he is going to launch, etc. Friday not a good day for bread and cheese conversation, glad to get back to the exam paper checking. News of an infotech scholarship in the engineering department: do we have anybody who might be interested? A bit late in the season for our brighter lights. Frata phone call from local printer about booklet covers that have not been collected or paid for... somebody slipped up there... better go and collect them and get the bill paid. Then home. Start looking at a diagnostic testing scheme for post-O students, all a bit dull. Time for tea. Must finish off those exam papers on Monday.

John Searl

The author is senior lecturer in mathematics at the University of Edinburgh.

I started my last column with the phrase, "Now that Mrs Thatcher has decided to hold an election" and ended it with the remark that "We are on the threshold of great changes. We will make them whoever gets into power". So I will start this column with the phrase "Now that Mrs Thatcher has got back into power for a long spell" and indicate what I think both main parties should do in the next five years.

Whatever people say about the extreme right-wing nature of this monetarist government, the fact is that too Conservative government can ignore the history of welfare planning and development since the war. The social revolution announced by the Beveridge report and the educational revolution worked by Butler in the wartime Education Act cannot be ignored by even the most doctrinaire reactionaries. Some sort of middle road ultimately suits us middle-of-the-road people. We don't vote for the extreme right wing. We would vote against it as we would vote against the extreme left wing. We abhor an approach to theoretical socialism and applied Marxism that this country has always rejected - and that every country in the Communist world would reject if they were allowed a free vote.

But Mrs Thatcher inherits an ethos which developed more than anything else from postwar socialism. It was one of the great episodes of our history, carried through with extraordinary speed and efficiency. I have just been reading Kenneth Harris's biography of Clement Attlee and recommended it for post-election reading. Dull in parts and undistinguished in its writing, it cannot help communicating the excitement of the dramatic changes brought about by that quiet, careful man.

Many of Attlee's remarks are salutary. A note to the Secretary of State for the Colonies might be used as advice to us all. "I have read your memorandum... its wording is one of the worst examples of turgid jargon that I have ever seen... There must be a revised draft written in plain and straightforward terms".

With astonishing control Attlee potential extremists and extremists in quietude towards the centre. He as much as anyone was responsible for the evolution of the kind of socialism that we recognize and feel comfortable with - a socialism that owes as much to Morris as to Marx and which, even in the midst of violent controversy, always moves towards tolerance. Even if that means inconsistency. The great

## Eton pioneers beat the state schools



Patrick Nuttgens

advantage of being inconsistent is that you stand a chance of being right some of the time.

The two main areas, apart from foreign affairs and defence, that must stay within public control are health and education. That was the inheritance of the nineteenth century. It always seems to me remarkable that the two areas of our lives that most immediately affect us are the concern of the state.

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poorer for the loss of Philip Whitehead, whose reason, calmness and knowledge of higher and adult education was such an antidote to the verbal diarrhoea of Neil Kinnock.

Above all the Commons will miss Christopher Price, irascible at times, but was always interesting and distinctive in his contributions on a wide range of subjects. He was probably the best of all the Select Committee chairmen. More than most, he brought the Commons Select Committee nearest to a Congressional committee. Too often - and the Environment Select Committee was a classic case - select committees immerse themselves for months in a particular topic and struggle to give birth to an agreed report of ridiculous proportions and outdated value. Chris Price wielded his committee in and out of subjects as they bit the headlines, grilling the participating parties and commented on matters with telling effect.

If Robert Douglas Stevenson is right and politics is the only profession for which no preparation is thought necessary, what are we to make of ministers? Successive governments have not been noted for providing the Department of Education and Science with informed ministers or with providing continuity. It has always been a "train" camp: Harold Wilson once made 12 ministerial changes at the DES within three years.

At least continuity is provided at the top this time. And though the 16 to 19 age group has lost its own minister, the direct involvement of the Secretary of State in this and non-advanced further education will put more muscle behind these areas than Bill Shelton was capable of. It might even produce a reappraisal of the DES's relationship with the Manpower Services Commission.

The new under secretary for higher education is well known in the politics of education. He was the Government

in the field of education, which has all the virtues of inconsistency. It must be accepted that the public schools will be left undamaged for the next five years and since any attempt thereafter by another government would take several years to carry out, we may as well assume that the public schools will survive until the end of the century. Already, following some pioneering developments at Eton, several public schools are setting up facilities for teaching and working in design and technology, thus doing the work that the comprehensives should be doing.

Despite the public schools, there can surely be little doubt that the essential mode of school education in this country is now comprehensive. Even in those public schools. The problem is simply that this country cannot do itself of thinking in terms of class structures. There are welcome signs that some authorities are beginning to think about the kids who do practical and less academic work, that is the majority. A major challenge for the Department of Education and Science and the Manpower Services Commission to sort out their relationships and find out which should be doing which work, especially in the realm of further education.

And what should the Labour Party be doing during the next five years? Clearly they will have to take a cool look at themselves, stop petronizing us and talking down to us as they have been doing for years and throughout the election. They have a unique opportunity to sit down and think - and produce not just a policy for getting in, again but something much more fundamental and capable of inspiring a meaningful programme.

That is to look radically at the nature of work. Not just unemployment. Traditional concepts are out of date. For 20 years they have - under such banal images as the Social Contract - kept their energies to getting full employment for some and nothing for the rest. But there is no reason why everyone should have to suffer from full employment in an advanced technological society. It is not a simple matter to create work for all by reducing the hours for some, and that's why the problem, surely one of the most fundamental and real reaching of our day, requires careful and protected thought. Labour in opposition has the people and the opportunity to do that. It will be a tragedy if Labour fails to use the next five years to bring together people of experience and brains to look at the future of work in a caring society.

As a recent (unemployed) postgraduate, I would plead with the universities to recognize that it is theirs, in addition to individual futures, that are at risk. Sir, from the government's gerotie, there is no appeal.

Yours faithfully,  
COLIN HENDRIE,  
3 Park Avenue,  
Slipway, West Yorkshire.

Elgin marbles  
Sir - Your editorial on the Elgin marbles (THES June 10) cries for an answer. Here is a brief one: the "continuity of Hellenic culture" problem exists only in the imagination of your leader writer. An elementary study of Greece's cultural history shows immediately the language, ethos, social characteristics, group consciousness, eclectological inclinations, music, art, etc. of the place to be clearly recognizable as belonging to one and the same great nation, through its various historical ventures from classical times to Roman Hellenism and the Eastern Roman Empire (known as "Byzantium" in the West) to modern times. There have been arguments about the "race" of modern Greeks, never about their cultural origins and continuity.

As to the British Museum being set place to keep the Elgin marbles safely and most accessibly, one need only note that they were quite safe and definitely accessible where they had been for over 2000 years - until Lord Elgin undertook to "save" them from the Greek peasants that kept them with love and awe.

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B. K. BANAKAS,  
Lecturer in Law,  
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Even with these limitations there was considerable flexibility. Strong partisans could cast both votes for members of their party. Don't know what mark their indecision at the polls might make for one candidate of each party ("splitting"), raising the chances

## LETTERS TO THE EDITOR

### Security procedures and positive vetting

Sir - As you know, the Security Commission's report on the Geoffrey Prime case was published on May 12 and its recommendations to tighten procedures to the security and intelligence agencies have been accepted by the Prime Minister. The commission exonerated from blame staff at GCHQ, finding weaknesses in the system (ie the security procedures themselves) rather than with those operating them. In addition a special report by the House of Commons Defence Committee was published last week on positive vetting in HM Service and the Ministry of Defence.

First, the Security Commission's report recommended a number of changes in security procedures, including positive vetting (PV). My article (THES, March 18) drew attention to the fact that the motives of spies are often complex, not simply a matter of ideology or opportunism. The commission confirmed the complex pattern of motives in Prime's case as well as his psychological problems and commended the recent proposal by GCHQ that investigating officers should report on the subject's motivation at initial PV. Prime's visit to a psychiatrist in 1972 for severe depression was unknown to his investigation officers and the commission recommended that, throughout the public service, people being vetted should provide a health declaration giving written authority for access to their medical records. Other improvements in the PV procedure in the security and intelligence agencies include interviews with independent referees, other than those named by the individual and

restriction of access to the most sensitive information to persons of 21 years and over.

The GCHQ is embarking upon a drive of security education, which was endorsed by the commission. This programme will encourage both supervisors and colleagues to be alert to "odds of behaviour" by staff, which may have bearing on security and report them. Besides seeking to develop a sense of mutual responsibility for security, the commission recommended placing more responsibility on line managers for security supervision and record-keeping. Additionally, the commission proposed a pilot scheme for the polygraph, or lie-detector, used in the United States by the National Security Agency and Central Intelligence Agency. Prime lied frequently to his investigating officers and this personnel screening device will be tested in this country to assess its relevance to British security and intelligence agencies. This more radical recommendation, however, is not intended to apply to all PV posts in the Government service, but will be restricted to those persons in the security and intelligence agencies likely to have access highly-classified information.

The commission pointed out that proposals to improve document security at the GCHQ and the physical security of its buildings are being costed and decisions will be taken shortly. These include spot checks on classified documents and computer material, as well as random searches of persons on exit (limited to a search of briefcases, coat pockets, etc.).

Turning next to the Select Committee on Defence, it was unable to complete its inquiry because of the dissolution of Parliament. Instead, this first special report was published with the expressed hope that the Defence Committee in the new Parliament will continue this investigation. The committee covered narrower ground than the Security Commission dealing only with PV but was probing the subject deeply having put 27 questions to the MoD, such as the unit cost for each person being vetted; the number and type of referees required; the average time taken to complete a PV inquiry, etc. The Council of Civil Service Unions submitted a memorandum to the committee giving its views, including those on the polygraph. As I predicted, it opposed the polygraph on numerous grounds such as its questionable scientific validity and fear that, if introduced into the British civil service, its use might be extended for purposes other than PV investigations.

No doubt the subject of security procedures will continue to be discussed in this country for some time to come. In my view, such protection cannot rest with devising improvements in existing methods and experimenting with new machinery. It is the implementation of procedures and adequate resources which will prove crucial and I hope that security education, supervision and good management will receive continual attention throughout the public service, as outlined in my article.

Yours faithfully,  
ROSAMUND THOMAS,  
Lecturer in public administration,  
London School of Economics.

For serious inquiry, at least at undergraduate level.

These are major reasons, I suggest, why so few of the droves of students leaving school with A levels in modern languages are attracted into these subjects.

Other minor corrections are that the liaison committee had met four times between the December meeting and the March 3 meeting and had repeatedly reaffirmed this opposition to Brent Naffin's view.

The Naffin does not believe that centrally imposed student numbers should replace the system of peer review which is unique to the public sector. Not only would this undermine the role of validating bodies, it would reduce the system's ability to respond to student demand, and would infringe institutional autonomy.

One objective of the Department of Education and Science in seeking to limit student numbers is a concern to limit the amount of money spent on mandatory awards. The Naffin believes that the size of the awards bill must remain a matter for the Government not to colleges to determine.

Rising unemployment plus a greater than ever demand for qualified young people means that higher education has a responsibility to admit the maximum number of students consistent with the maintenance of educational quality and staff working conditions. Institutions know best what those numbers should be. We have pressed, within the NAB and in evidence to the Commons Select Committee on Education, for a proper appraisal of what courses should cost irrespective of where the are provided.

There are insufficient resources within public sector higher education to meet present demand. Some potential students were turned away last year; more are likely to be turned away this year and next. It is to the credit of the institutions that, faced with relentless squeezing of resources, they continue to admit as many students as they do and refuse to jeopardize the future of young people in order to make a political point to an unsympathetic Government.

JAMES THOMPSON,  
President,  
Reading Association of University Teachers.

### Postgraduate appeals

Sir - Could it be that the "major obstacle to change" is not "the refusal of the university authorities to debate the issues" (Barry Adams, THES June 17) but the failure of the universities to identify the real issues? While the

appeals is an important and longstanding issue, there is a new twist which perhaps deserves equal attention.

It is the refusal of the universities to grasp that many of their postgraduates who do complete within three years, who publish widely, who represent the next generation of academics and who are unable to gain employment, that is the major obstacle to change. It must be stated that in the context of contracting resources and ever more severe competition for jobs, discussions concerning poor completion rates would appear to be as useful as debating the invention of the wheel until the colour had been decided.

As a recent (unemployed) postgraduate, I would plead with the universities to recognize that it is theirs, in addition to individual futures, that are at risk. Sir, from the government's gerotie, there is no appeal.

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### Police cadets and language

Sir - The extracts from the writings of the students at the Hendon Police Cadet School (THES, June 17) are indeed deeply disturbing - not because of their content (which, in so far as it can be understood, is fairly predictable), but because they seem a representative sample of that helpless ineptitude in the use of the English language which has become so normal as to pass without remark in British further and higher education. Perhaps Professor Harold Rosen, who is regarded, I believe, as some sort of expert in linguistic education, might in future bend his mind to the contemplation of all that this fact entails rather than issuing the kind of vacuous progressive statement that you quote in your columns.

Yours faithfully,  
ROGER ELLIOTT,  
31 Duns Lane,  
North Creak,  
Fakenham, Norfolk.

Sir - Regarding the article by David Jobbins (THES, June 17) issue there are a few points I would like to take up. The main point relates to the meeting between Commander Wells and the regional official of the National Association of Teachers in Further and Higher Education in December 1982. I was present at the meeting and the quotations given are incorrect. The correct minute is: "The commissioner reserves the right to decide what is taught and by whom. There was room for negotiation about this statement." This is very different from saying "there is no room for negotiation about this statement".

Other minor corrections are that the liaison committee had met four times between the December meeting and the March 3 meeting and had repeatedly reaffirmed this opposition to Brent Naffin's view.

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There are insufficient resources within public sector higher education to meet present demand. Some potential students were turned away last year; more are likely to be turned away this year and next. It is to the credit of the institutions that, faced with relentless squeezing of resources, they continue to admit as many students as they do and refuse to jeopardize the future of young people in order to make a political point to an unsympathetic Government.

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## Playing the student numbers game

Given the Government's determination to depress resources for higher education when increased numbers of students are seeking places, the conflict between student numbers, and resources is bound to be acute.

Who the universities faced a similar problem the University Grants Committee's solution was target student numbers, nationally, for specific institutions, and some departments within institutions. This the UGC considered necessary to protect educational quality.

The NAB already uses notional student numbers for national planning and could, at least theoretically, centrally impose UGC-type controls on public sector institutions, by course, department and college.

There is, however, a fundamental difference between using notional student numbers for national planning, leaving colleges to spend their money within wide limits as they choose, and giving detailed central direction to institutions on student numbers with penalties if targets are exceeded.

If the NAB is to give advice on the future shape of the advanced further education system, it must take some view on the balance between types of courses, modes and levels of provision and geographical spread.

The National Association of Teachers in Further and Higher Education believes that the complexity of the public sector means any changes must be gradual. While it is clearly vital to protect cost-effective institutions to ensure that their funding does not fall so low that they become non-viable, historic costs must also be considered. This is one of the major problems facing the NAB and cannot be solved

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Any efficient institution will know the approximate number of students it can admit without overstretching its resources. In some cases, institutions have already reached their limits and are unable to admit larger student intakes. But this is a matter for institutions to determine, in consultation with their validating bodies.

The Naffin does not believe that centrally imposed student numbers should replace the system of peer review which is unique to the public sector. Not only would this undermine the role of validating bodies, it would reduce the system's ability to respond to student demand, and would infringe institutional autonomy.

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